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July 31, 2007

Mr. Earl Liverman, On-Scene Coordinator United States Environmental Protection Agency, Region 10 1910 Northwest Boulevard, Suite 208 Coeur d'Alene, Idaho 83814

RE: Contract Number EP-S7-06-02, Technical Direction Document (TDD) Number 07-03-0004; Removal Assessment Report, Avery Landing Site, Avery, Idaho

Dear Mr. Liverman:

Enclosed please find the final Removal Assessment Report for the Avery Landing Site in Avery, Idaho. If you have any further questions or comments, please contact me at (206) 624-9537.

Sincerely

Jeffrey Fowlow

START-3 Project Leader

Enclosures

cc: Clifford Villa, Assistant Regional Counsel, USEPA Region 10, Seattle, WA

Steven Hall, START-3 Project Manager, E & E, Seattle, WA

## REMOVAL ASSESSMENT REPORT

Avery Landing Site Avery, Idaho TDD: 07-03-0004

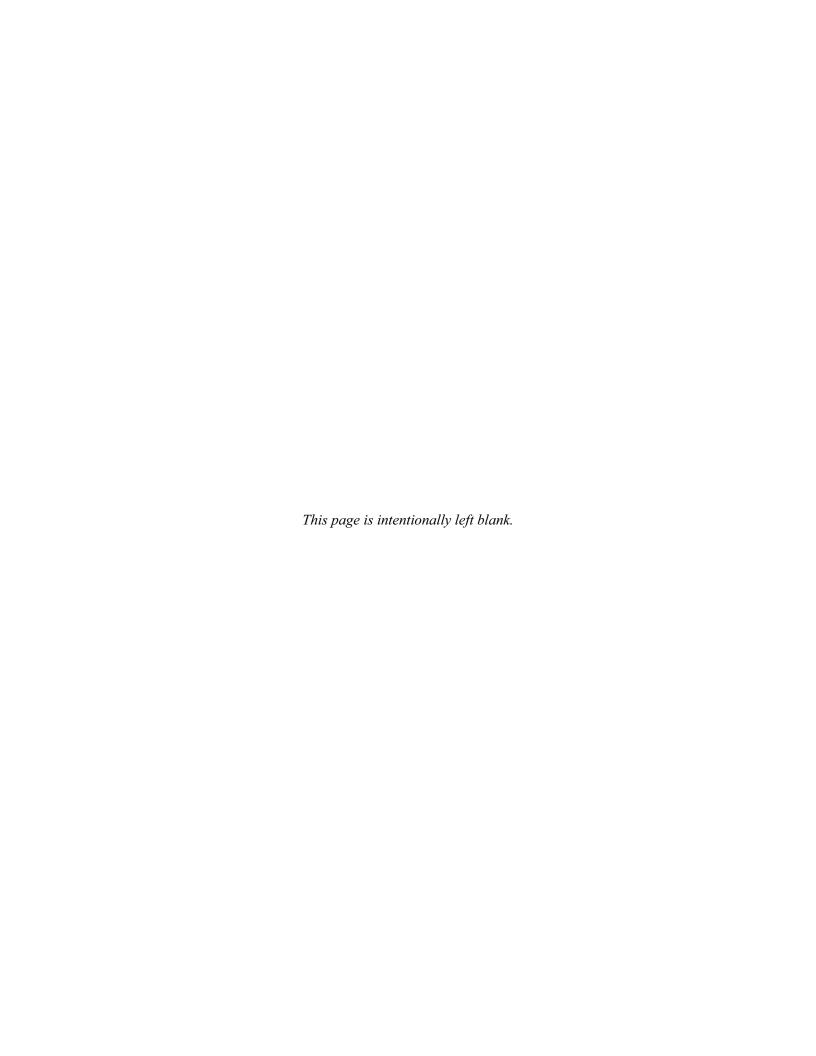


## Prepared for

U.S. Environmental Protection Agency, Region 10 1910 Northwest Boulevard, Suite 208 Coeur d'Alene, Idaho 83814

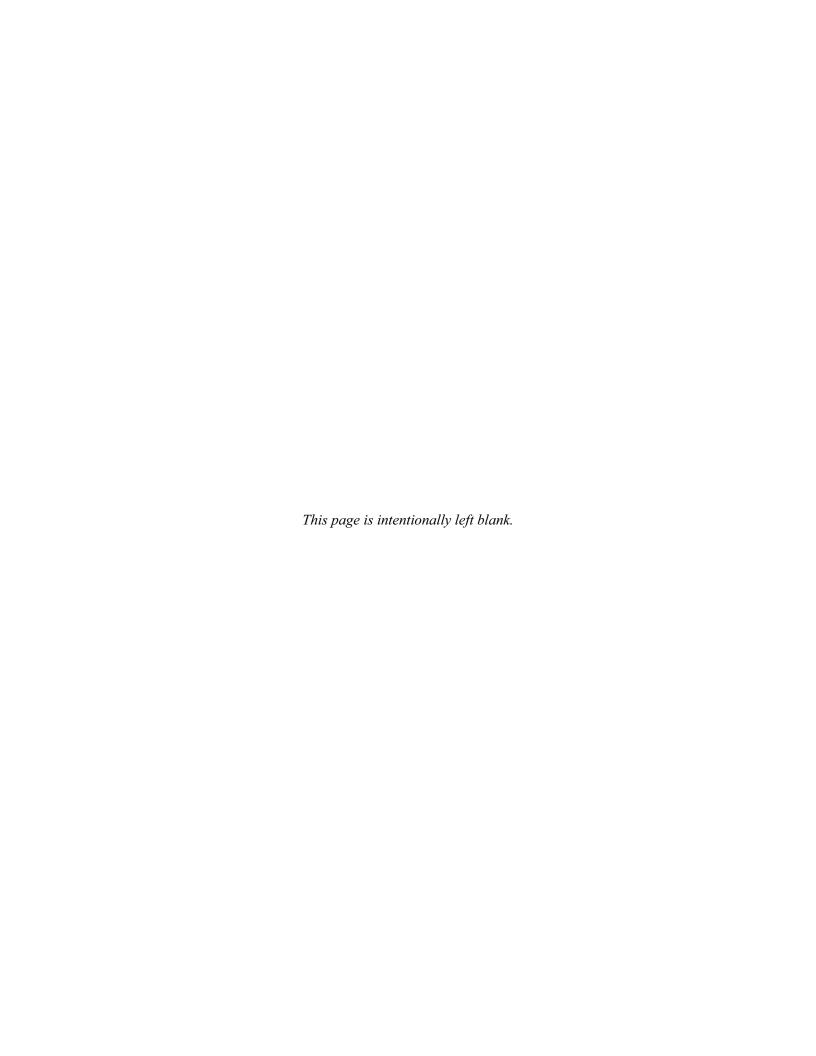
Prepared by

Ecology and Environment, Inc. 720 Third Avenue, Suite 1700 Seattle, Washington 98104



## REMOVAL ASSESSMENT DECISION - EPA REGION 10

Site N	ame: Avery Landing	Site	EPA ID #: 10ZZ					
Contractor/TDD Number: Ecology and Environment, Inc. / TDD 07-03-0004								
Addre	Address: One mile west of Avery on State Highway 50							
City:	Avery	County or Borough:	Shoshone County State: Idaho					
Report	Type: Removal Asse	essment	Report Date: July 31, 2007					
osc	DECISION:							
Furt	ner Removal Assessmen	nt/Action is/is <u>not</u> (circle one) r	equired because:					
	1.Removal assessment of	conducted, no further action requ	uired.					
	2. Referred to other EPA	division:						
	3. Referred to other agen	ncy:						
	4. Clean up already in pr	ogress.						
	5. Wasn't able to locate	or verify complaint.						
	6. Clean up appropriate <u>l</u>	but delayed due to resources or p	priority.					
	7.Other - discuss below.							
DISC	CUSSION/RATIONALI	<b>Ξ:</b>						
Signat			Date:					
	EPA On-Scene Coo	ordinator						



## REMOVAL ASSESSMENT REPORT AVERY LANDING SITE AVERY, IDAHO

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#### LIST OF ACRONYMS

<u>Acronym</u> <u>Definition</u>

ARARs applicable or relevant and appropriate requirements

AST above-ground storage tank
AWQC Ambient Water Quality Criteria

bgs below ground surface °C degrees Celsius

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act

CMC Real Estate Company

CMSPR Chicago, Milwaukee, St. Paul, and Pacific Railroad

DEQ Idaho Department of Environmental Quality (formerly Division of

Environmental Quality)

DQO data quality objectives DRO diesel-range organics

E & E Ecology and Environment, Inc.

EPA United States Environmental Protection Agency

Farallon Consulting, L.L.C. GPS Global Positioning System

Hart Crowser, Inc.

HHMSSL Human Health Medium-Specific Screening Level

HSA hollow-stem auger

IDAPA Idaho Administrative Procedures Act

J estimated value L/min liter per minute

Laucks Laucks Testing Laboratories, Inc.

MCL Maximum Contaminant List

µg/kg micrograms per kilogram

µg/L micrograms per liter

mg/kg milligrams per kilogram

mg/L milligrams per liter

MS matrix spike

MSD matrix spike duplicate

n.d. not dated

NWTPH-Dx Northwest Total Petroleum Hydrocarbons, Diesel Range Extended

ORO oil-range organics
OSC On-Scene Coordinator

PAH polynuclear aromatic hydrocarbon

PCB polychlorinated biphenyl
Potlatch Potlatch Corporation
PVC polyvinyl chloride

QA/QC quality assurance / quality control

R rejected value

REM Risk Evaluation Manual

RP responsible party

RPD relative percent difference SQG sediment quality guidelines SSSP site-specific sampling plan

START Superfund Technical Assessment and Response Team

STL STL-Seattle, Inc.

SVOCs semivolatile organic compounds

TAL target analyte list

TAT Technical Assistance Team
TBC criteria to be considered
TDD Technical Direction Document
TEC threshold effect concentration

U not detected

UJ estimated value (detection limit)

URS Consultants, Inc. URS Greiner URS Greiner, Inc.

VOCs volatile organic compounds

#### 1.0 INTRODUCTION

The United States Environmental Protection Agency (EPA) has performed a removal assessment at the Avery Landing Site in Avery, Idaho. The site is located directly adjacent to the St. Joe River, and the site was the former location of a railroad roundhouse, maintenance, and refueling facility for the Chicago, Milwaukee, St. Paul, and Pacific Railroad (CMSPR). Through the years, petroleum hydrocarbon and other industrial products were likely spilled on site, which led to floating petroleum hydrocarbon on the groundwater table, petroleum seeps to the St. Joe River, and other contaminants found on site. Since the late 1980s, Potlatch Corporation (Potlatch), who purchased part of the property, has been investigating part of the site and performing site cleanup activities to address the petroleum hydrocarbon contamination on the groundwater table and seeping to the river. EPA is currently investigating the site to address the potential presence of Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) hazardous substances in soil, groundwater, and surface water from the historic uses of the site as a railroad roundhouse and maintenance facility.

Ecology and Environment Inc. (E & E) has been tasked by EPA under Superfund Technical Assessment and Response Team (START)-3 contract number EP-S7-06-02, Technical Direction Document (TDD) 07-03-0004, to perform a removal assessment of the site through a review of its historic uses and the collection of soil, groundwater, and surface water samples for analytical testing. As a part of the field sampling event, START-3 installed six monitoring wells and advanced an additional seven soil borings to investigate subsurface soil and groundwater conditions.

This report is organized into the following sections: Introduction (Section 1), Site Conditions and Background (Section 2), Field Sampling Event (Section 3), Sample Collection and Analysis (Section 4), Quality Assurance / Quality Control (Section 5), Conclusions (Section 6), and References (Section 7). Selected photographs of site activities are included in Appendix A.

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#### 2.0 SITE CONDITIONS AND BACKGROUND

#### 2.1 SITE CONDITIONS

#### 2.1.1 Site Location

The site is located in the St. Joe River valley in the Bitterroot Mountains in northern Idaho, one mile west of the town of Avery, Idaho, in Shoshone County (Figures 2-1 and 2-2). The site is located directly adjacent to the St. Joe River to the south and Highway 50 to the north, at 47° 13' 57" north latitude and 115° 43' 40" West longitude. The elevation of the site is approximately 2,540 feet above mean sea level (URS 1993).

The St. Joe River is a special resource water that is used for wildlife habitat, recreation, and as drinking water for downstream residents. According to IDAPA 58.01.02.110.11, the segment of the St. Joe River adjacent to the Avery Landing site that could be impacted by contaminants found at the site has the following designations: special resource water, domestic water supply, primary contact recreation, cold water communities, and salmonid spawning. The site is located in a narrow and remote river valley, and the immediate area around the site is residential and commercial.

#### 2.1.2 Site Layout

The site is located in a flat, filled bank at a bend in the St. Joe River (Figure 2-3). There is little remaining at the site to indicate its previous use as a railroad roundhouse and maintenance facility, with the exception of a concrete slab and the remnants of rail lines leading to the former roundhouse. Presently, the site is relatively flat ground with gravel and a small amount of vegetative growth. The site was largely composed of fill material as a result of construction of the railroad facility, and Potlatch performed additional leveling and grading of the site after purchasing the property (URS 1993).

There are numerous monitoring wells and piezometers (hollow polyvinyl chloride [PVC] pipes installed vertically in subsurface soil and used to monitor groundwater elevations) located on site. There are several larger wells that were used for the product recovery system that was operated in the past. In the center of the site there is an above-ground storage tank (AST) and a shed on the concrete slab.

The site is approximately divided in half by two properties (Figure 2-3). The eastern portion of the site is owned by Larry Bentcik, who maintains a vacation cottage on the property. The western portion of the site is owned by Potlatch. On the Potlatch property, there are several houses, motor homes, and motor home utility hook-ups. Several residents live on the property year-round, and several more reside on the property seasonally. There is a domestic well on the property for use of the residents.

#### 2.1.3 Geology and Hydrogeology

The site is located in northern Idaho, which is dominated by Precambrian metasedimentary, metamorphic, igneous intrusive, and volcanic formations. Younger sedimentary formations range from glacial deposits of outwash, till, glaciofluvial and glaciolacustrine deposits (TAT n.d.).

Locally, fill material is present to approximately 18 feet below ground surface (bgs; URS 1993). Groundwater elevations typically range from approximately 10 to 16 feet bgs (Hart Crowser 2000a). Groundwater elevations appear to be associated with elevations of the St. Joe River (TAT n.d.). The river flows to the west at the site, and groundwater flow direction is generally to the south and west (see Section 3.2 and Figure 3-3). As discussed in Section 3, START-3 primarily observed sand with silt and gravel in the subsurface soils. The presence of silt and the slow recharge rates observed during monitoring well development (Section 3.1.3) suggests that groundwater on site may flow at relatively slow rates (i.e., at rates slower than would be observed in pure sand).

#### 2.2 SITE HISTORY AND OWNERSHIP

The site was used as a switching and maintenance facility for the CMSPR from 1909 until 1977. The facility included a turntable, roundhouse, machine shop, fan house, engine house, boiler house, storehouses, coal dock, oil tanks, and a pump house. Activities performed by the railroad at the facility included train refueling, the use of solvents to clean engine parts, cleaning of locomotives by hosing them down, and equipment maintenance. The facility was located at the end of an electric rail line from the east, and at the Avery facility trains switched to fuel oil and/or diesel locomotives. The facility reportedly included on-site storage of transformer oil, although the use of transformer oil containing polychlorinated biphenyls (PCBs) has not been documented. As a refueling station, fuel oil was stored on site, including the use of a 500,000-gallon above ground fuel oil tank. (URS 1993).

CMSPR filed bankruptcy (presumably in the late 1970s) and then reorganized under the name CMC Real Estate Company (CMC). Under CMC, the properties were sold and otherwise divested. The western portion of the property (Figure 2-3) was sold to Potlatch in 1980 (TAT n.d.). The eastern portion of the property reverted back to the family of the previous owner, before CMSPR began operations, and this family sold the property to David Thierault. In 1996, Mr. Thierault sold the property to Mr. Larry Bentcik, who currently owns the property (Bentcik 2007). Another portion of the property was acquired by the Federal Highway Administration for use in the construction/expansion of State Highway 50. The site has been used by Potlatch since 1980 for parking, staging, and temporary log storage (URS 1993).

#### 2.3 SUMMARY OF PREVIOUS INVESTIGATIONS AND CLEANUPS

#### **2.3.1** Free Product Recovery

In the late 1980s, the State of Idaho Division of Environmental Quality (now Department of Environmental Quality [DEQ]) began to investigate the site because of the presence of visible petroleum product seeps to the St. Joe River from the riverbank on the site. The investigation included the installation of several monitoring wells and test pits installed in the late 1980s and early 1990s. As a result of these investigations, it was determined that free product was a mixture of diesel and heavy oil and was present on the groundwater table throughout the site, with product thicknesses exceeding four feet in some locations.

In 1994, Potlatch installed a product recovery system at the site, pursuant to an DEQ Consent Decree. The system included several trenches installed along the bank of the river. Groundwater and product were pumped from these trenches and then sent through an oil/water separator. Recovered product was stored in an on-site AST for later off-site disposal. Recovered groundwater was pumped across Highway 50 and re-injected into the ground through a re-infiltration trench installed north of the road. The system operated until approximately 2000 and recovered a total of 1290 gallons of product. (Farallon 2006)

By 2000, despite the operation of the product recovery system, product seeps were still observed on the banks of the St. Joe River from the site. To address this ongoing issue, Potlatch, under direction from DEQ, installed a restraining barrier along the bench to act as a further barrier to prevent free product from reaching the river. In 2000, Potlatch excavated material away from the bank, installed a PVC liner to act as a barrier wall to product, and backfilled with sand, gravel, and riprap along the bank. Potlatch also installed a series of product recovery trenches and wells to recover any free product that may collect against the barrier (Farallon 2006). With the new restraining barrier, Potlatch proposed to recover additional free product if product was present in site recovery wells at a thickness of 0.05 feet (0.6 inches) or greater. Potlatch continued to monitor the monitoring wells on site for free product, although they never operated the recovery system again (Cundy 2007). Figure 2-4 illustrates the estimated extent of the free product plume in 2000 (Hart Crowser 2000b) and the highest product thickness levels observed for each well.

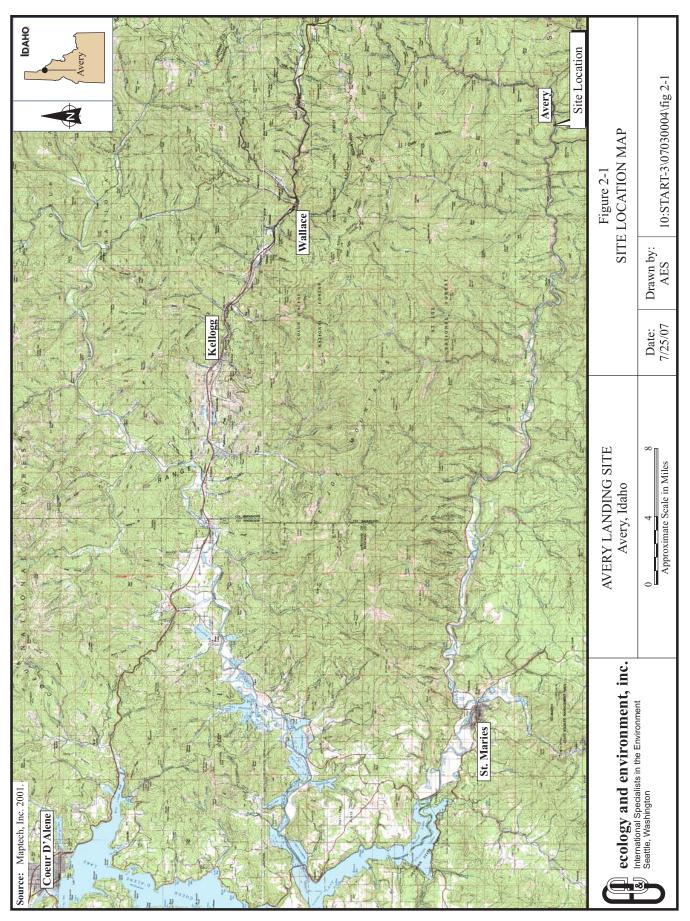
DEQ continued to provide oversight for the site, and in 2005 and 2006, DEQ continued to observe product seeps in the bank of the St. Joe River.

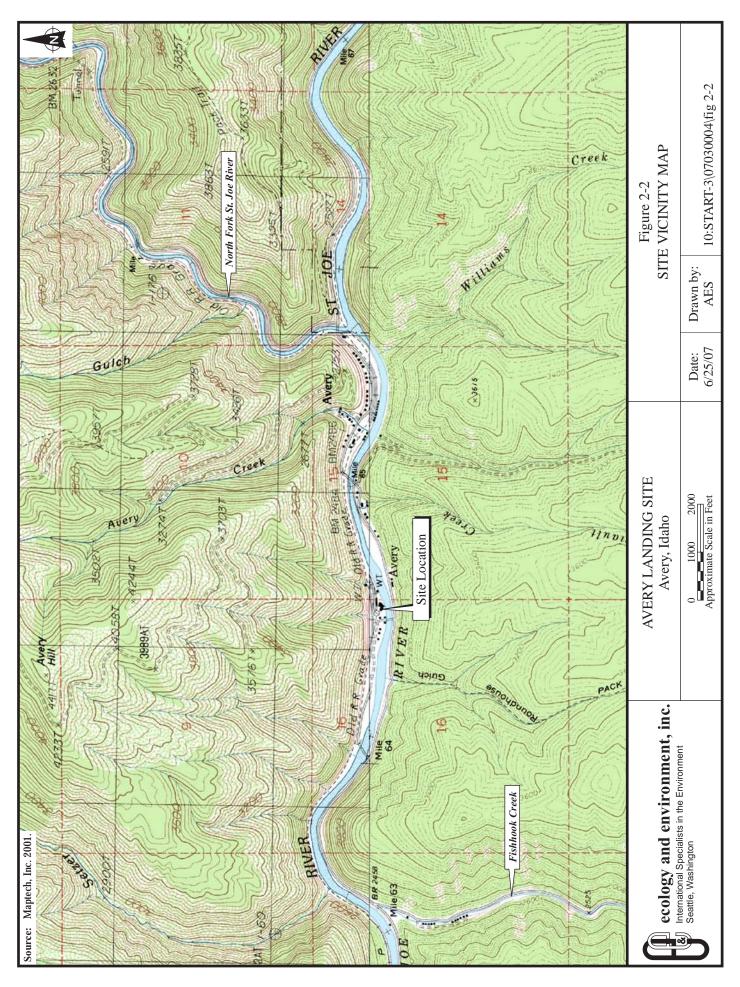
#### 2.3.2 EPA Site Inspection

In 1992, URS Consultants, Inc. (URS), as a contractor to EPA, performed a site investigation at the site. URS collected soil, groundwater, and surface water samples from the site and vicinity for

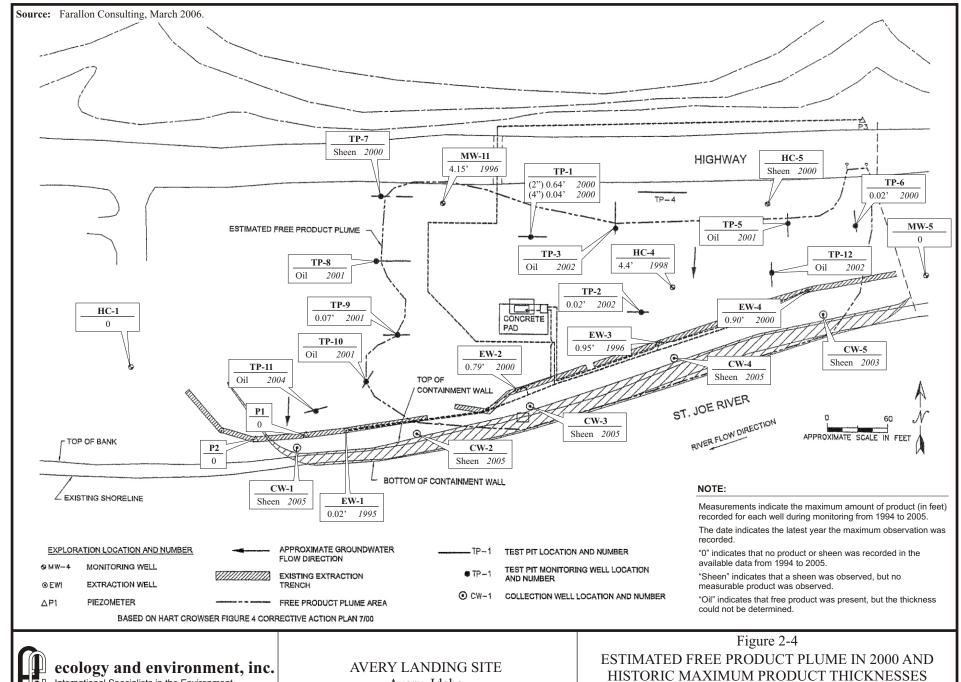
laboratory analysis. The results indicated the presence of contaminants, including volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), metals, and PCBs at the site. Benzene, arsenic, and lead were detected in an on-site monitoring well (HC-3<sup>1</sup>) at concentrations that exceeded the federal Maximum Contaminant Levels (MCLs; URS 1993).

<sup>&</sup>lt;sup>1</sup> Monitoring well HC-3 is no longer present on site. It was presumably closed during the installation of the product recover system.











Seattle, Washington

Avery, Idaho

Date: Drawn by: AES	10:START-3\06090001\fig 2-4
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#### 3.0 FIELD SAMPLING EVENT

From April 16 through 21, 2007, START-3 performed the field work associated with the removal assessment, including the installation of monitoring wells and additional soil borings and the collection of soil, groundwater, and surface water samples. START-3 also planned to collect sediment samples from the bank of the St. Joe River, although sediment samples could not be collected because of the presence of riprap on the bank (see Section 4.4). Specific details about sampling activities are provided in this section.

#### 3.1 SOIL BORING AND MONITORING WELL INSTALLATION

#### 3.1.1 Drilling Methods

START-3, through a drilling subcontractor, installed a total of 13 soil borings to collect subsurface soil samples from the site. Additionally, six of the borings were completed into monitoring wells. The drilling subcontractor was Environmental West Exploration, Inc., of Spokane, Washington, a State of Idaho-certified driller.

Drilling was performed with a 6-inch hollow-stem auger (HSA). In general, the borings were advanced until at least groundwater was encountered. For each boring, soil samples were generally collected at discrete 2-foot intervals with a 2-inch diameter split spoon sampler. Discrete interval samples were generally collected beginning at 1 foot bgs and continued with periodic samples until groundwater was encountered. For some borings, split-spoon samples were collected at less frequent intervals below groundwater. The soil was characterized by a START-3 geologist, who recorded the data on drilling logs. In general, most of the subsurface soil was characterized as sand with silt and gravel.

The borings are described in Table 3-1, and the drilling logs are included in Appendix B. The six soil borings that were converted to monitoring wells were labeled EMW-01 through EMW-06. The seven additional soil borings that were not converted to monitoring wells were labeled ESB-01 through ESB-07. START-3 recorded the lateral position of each boring and monitoring well with Global Positioning System (GPS), and the locations are illustrated in Figure 3-1. EMW-01 was intended to be a background soil boring / monitoring well, as is it is located upriver and therefore upgradient from the site. To the extent possible, soil borings and monitoring wells were placed in locations to evaluate the potential environmental impact from the site's past use as a railroad maintenance and refueling station. For example, after referring to a historical site diagram of the railroad facility, soil boring ESB-02 was placed near the former location of the machine shop, and EMW-02 and ESB-04 were placed near the locations of fuel lines.

The monitoring wells were constructed out of 2-inch PVC pipe with a 0.020-foot (20 slot) V-wire screen. Each well was constructed with a 10-foot section of screen, and the screen was placed at an approximate depth designed to represent the historic maximum and minimum groundwater elevations at those locations. Each screened section was surrounded by 10/20 filter sand, and then sealed at the top with bentonite and concrete. Each monitoring well was completed as a flush-mounted steel monument set in concrete.

While collecting the discrete intervals for geological logging, START-3 also collected soil samples for analytical testing. More details about sample collection and analytical testing are provided in Section 4.

#### 3.1.2 Free Product Observations

While advancing the soil borings, START-3 also recorded observations about any free product that was encountered in the subsurface soil or groundwater. Details are included in the drilling logs, and a summary of the observations is presented in Table 3-2. START-3 observed evidence of free product in subsurface soil and/or groundwater from 10 of the 13 soil borings advanced at the site. The presence of free product was determined by the observation of any of the following characteristics:

- A noticeable petroleum hydrocarbon odor;
- Oily or oil-stained soils;
- Free product mixed with soil;
- A visible sheen in groundwater; and/or
- Drops of oil in groundwater.

The locations where free product was detected are illustrated in Figure 3-2. Free product was not detected in the upgradient monitoring well EMW-01, which was considered the background soil boring / monitoring well. Additionally, free product was not detected in EMW-03, which was the northwestern-most soil boring, or ESB-02, where drilling refusal occurred between 2 and 3 feet bgs. Figure 3-2 includes the estimated areas of the free product plume in 2000 (Hart Crowser 2000b), and the current area of free product, based on START-3's observations of free product on groundwater and in soil borings. As can be seen from Figure 3-2, the area of the free product plume has grown larger, and it has extended downgradient to the west and southwest.

#### 3.1.3 Monitoring Well Development

After the monitoring wells were installed, they were developed to remove solids remaining in the well and sand pack and to improve access to representative aquifer water. Well development was

performed by the drillers under the supervision of the START-3 geologist. The wells were developed with a pump inserted into the well that pumped out the water until water clarity improved. While pumping the water, the well inlet was moved up and down in the well column so that the entire screened interval was developed. With the exception of EMW-01, the background well, development water was pumped into drums for storage.

Some of the monitoring wells ran dry during development, and the groundwater was slow to recharge. For these wells, START-3 and the driller allowed water to recharge before continuing the development. The fact that water was generally slow to recharge during well development indicates that subsurface soil supports relatively slow groundwater flow rates.

#### 3.2 MONITORING WELL SURVEY

Following the installation of the six new monitoring wells, START-3 collected groundwater elevations from the wells. The elevations were collected at least one day following well development and before groundwater samples were collected, so that static groundwater levels were allowed to equilibrate. Groundwater elevations were recorded with a water level indicator and/or an oil/water interface probe, depending on whether free product was present in the monitoring well. Each instrument was decontaminated with Alconox and water after testing each well. In addition to the newly installed monitoring wells, START also attempted to collect information, including groundwater elevations and product thickness levels, from as many of the existing site monitoring wells as possible.

Groundwater and product thickness levels are summarized in Table 3-3. As indicated in the table, free product was observed in existing wells HC-4, MW-11, TP-2, and EW-3 and EW-4. Note that of the extraction wells EW-1 through EW-4, START-3 only examined EW-3 and EW-4, so data is not available for EW-1 and EW-2.

START-3 did not observe any free product in the newly installed monitoring wells (EMW-01 through EMW-06). However, note that these monitoring wells had just been installed and developed, and these activities likely pushed away free product present on groundwater. Typically, a minimum period of equilibration time is required following installation and development of a new monitoring well before free product will be observed in a well. As indicated in Section 3.1.2 and Table 3-2, evidence of free product was observed in four of the soil borings that became monitoring wells, including EMW-02, EMW-04, EMW-05, and EMW-06. It may require a longer period of time, perhaps several weeks or months, before free product, if present, will collect in these wells.

In some of the wells, the thickness of the free product could not be determined because the product was too viscous and sticky. When the oil/water interface probe reached the product level, the

thick, viscous, sticky product coated the probe and continued to give the signal for product even after the product had entered water. Therefore, the thickness of the free product could not be accurately measured in these wells. In some of these wells, START-3 verified that a distinct product level floating on groundwater was present with a clear plastic bailer. After lowering the bailer into the well and then raising it back to the surface, a distinct product layer on the groundwater was observed. The product thickness layer was measurable in two of the wells; HC-4 contained 0.88 feet of product, and TP-2 contained 0.72 feet of product.

The depths to groundwater for the existing wells and the newly installed monitoring wells are also included in Table 3-3. While in the field, START-3 surveyed the elevations of newly installed wells relative to one of the existing wells, MW-5, and these groundwater elevations and contours are indicated on Figure 3-3. Groundwater flow direction is to the west-southwest, generally parallel to the direction of the flow of the river.

#### 3.3 SURFACE WATER OBSERVATIONS

The OSC and START-3 inspected the river bank for any evidence of product seeping to the St. Joe River. Product seeps were observed in several areas. There was evidence of past seeps, indicated by oil stains on rocks, along a stretch of the river bank approximately 200 feet long. This section of seep activity is roughly centered on the property boundary, as indicated on Figure 3-2. In some areas, active seeps were observed. In these areas, a heavy petroleum sheen was observed on the surface water, and blooms of oil could be seen floating up from the bottom of the submerged river bank approximately three to five feet from the shoreline. Surface water samples SW-02 and SW-03 were collected from the two active seep areas, while SW-01 was collected upstream as a background sample.

#### 3.4 INVESTIGATION-DERIVED WASTE

Throughout the field activities, START-3 collected soil cuttings and development water as investigation-derived waste. The waste was stored in 55-gallon drums and left on site for future disposal, pending the results of analytical testing. There were a total of 20 drums, including nine of soil cuttings and 11 of development and purge water.

## Table 3-1

## Summary of Borings and Monitoring Wells 2007 EPA Removal Assessment Avery Landing Site Avery, Idaho

		Total	Well	
EPA	Installation	Depth	Diameter	Screened Interval
Boring ID	Date	(feet bgs)	(inches)	(feet bgs)
EMW-01	4/16/2007	12.6	2	2.5 - 12.5
EMW-02	4/17/2007	16.0	2	5.5 - 15.5
EMW-03	4/17/2007	19.5	2	9 - 19
EMW-04	4/17/2007	17	2	7 - 17
EMW-05	4/18/2007	19.5	2	9 - 19
EMW-06	4/18/2007	18.8	2	8.5 - 18.5
ESB-01	4/18/2007	9.0	N/A	N/A
ESB-02 (1)	4/18/2007	3, 5, 3 (1)	N/A	N/A
ESB-03	4/18/2007	13.0	N/A	N/A
ESB-04	4/18/2007	9.0	N/A	N/A
ESB-05	4/19/2007	25.0	N/A	N/A
ESB-06	4/19/2007	13.0	N/A	N/A
ESB-07	4/19/2007	17.0	N/A	N/A

Note: (1) ESB-02 met refusal after three attempts.

Key:

bgs = below ground surface EMW = EPA monitoring well

EPA = U.S. Environmental Protection Agency

ESB = EPA soil boring ID = identification N/A = not applicable

START = Superfund Technical Assessment and Response Team

				H-11-12
				1 ab te 3-2
		Su	mmary of Free Pro- 2007 EPA	Summary of Free Product Observations in Soil Borings 2007 EPA Removal Assessment
			Ave	Avery Landing Site Avery, Idaho
				Free Product Observations
EPA	Installation	Total Depth	Depth Interval	Okeawation
EMW-01	4/16/2007	12.6	All	None.
EMW-02	4/17/2007	16.0	5 - 7	Moderately strong hydrocarbon odor.
			6-7	Hydrocarbon product.
EMW-03	4/17/2007	19.5	All	None.
EMW-04	4/17/2007	17	11 - 13	Hydrocarbon sheen on groundwater.
			13 - 17	Oily hydrocarbon product present on downhole tools (poor recovery in sampling tool).
EMW-05	4/18/2007	19.5	9 - 11	Strong hydrocarbon odor.
			11 - 13	Strong hydrocarbon odor and sheen.
			13 - 15	Strong hydrocarbon odor; sheen and drops of black product in groundwater.
EMW-06	4/18/2007	18.8	6 <b>-</b> L	Hydrocarbon odor and sheen.
			9 - 11	Hydrocarbon odor and black oily liquid.
			11 - 13	Sand and gravel are stained black with an oily liquid.
			13 - 18	Soil cuttings contain an oily liquid.
ESB-01	4/18/2007	0.6	6 <b>-</b> L	Hydrocarbon sheen and odor on groundwater.
ESB-02 (1)	4/18/2007	3, 5, 3 (1)	All	None.
ESB-03	4/18/2007	13.0	9 - 11	Slight hydrocarbon odor.
			11 - 13	Strong hydrocarbon odor, product.
ESB-04	4/18/2007	0.6	3 - 5	Hydrocarbon odor and sheen.
			5 - 7	Hydrocarbon odor.
			6 <b>-</b> <i>L</i>	Strong hydrocarbon odor and product.
ESB-05	4/19/2007	25.0	3 - 5	Hydrocarbon odor and sheen.
			6 <b>-</b> <i>L</i>	Strong hydrocarbon odor, light sheen.
			11 - 13	Very dense, black oily liquid with strong hydrocarbon odor.
			15 - 17	Hydrocarbon odor.
ESB-06	4/19/2007	13.0	6 <b>-</b> <i>L</i>	Hydrocarbon odor.
			11 - 13	Strong hydrocarbon odor and oily liquid.
ESB-07	4/19/2007	17.0	5 - 7	Hydrocarbon odor.
			9 - 11	Increased hydrocarbon odor and sheen.
			13 - 15	Hydrocarbon odor and heavy sheen/product.
			15 - 17	Hydrocarbon odor and heavy sheen/product.
400				

Note: (1) ESB-02 met refusal after three attempts.

Key:
bgs = below ground surface
EMW = EPA monitoring well
EPA = U.S. Environmental Protection Agency
ESB = EPA soil boring
ID = identification

Table 3-3

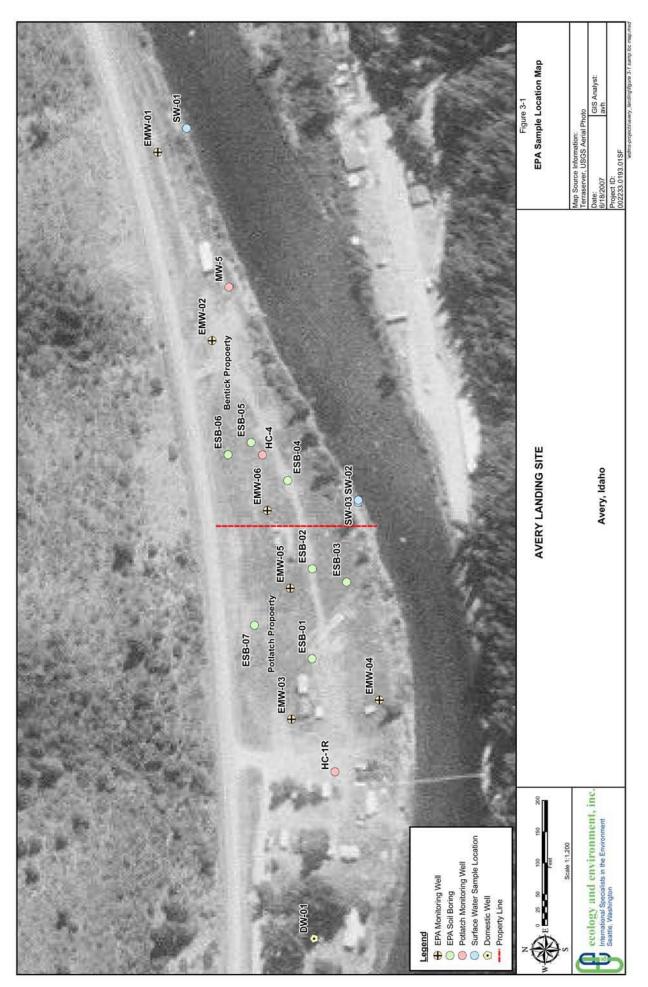
#### Summary of Groundwater and Free Product Level Data 2007 EPA Removal Assessment Avery Landing Site Avery, Idaho

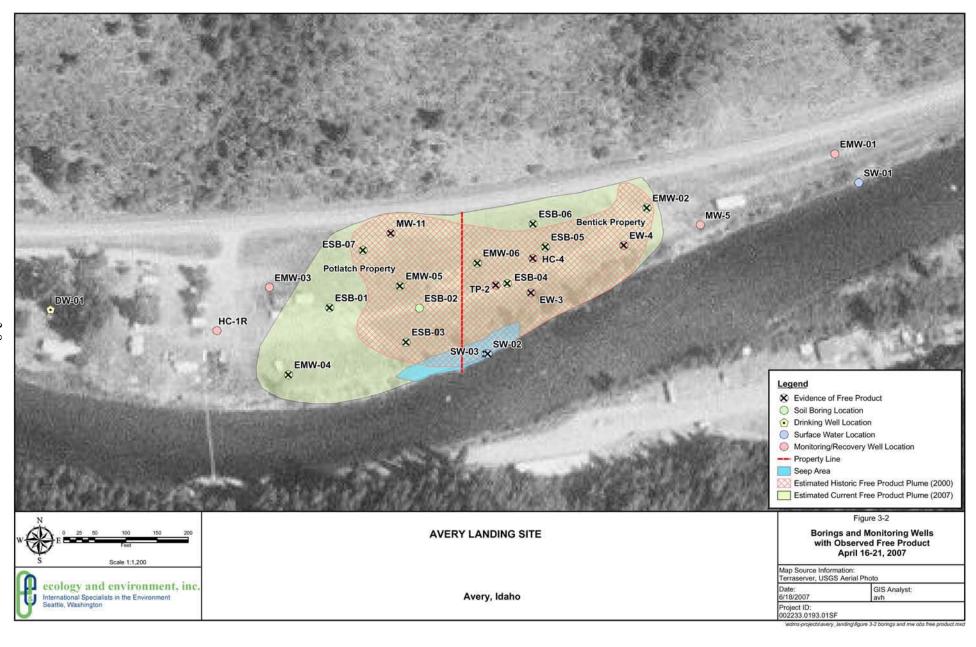
Monitoring Well	Measurement Date	Reference Elevation	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Water Level Elevation
EMW-01	4/21/2007	97.81		7.88	0.00	89.93
EMW-02	4/21/2007	97.52		8.22	0.00	89.30
EMW-03	4/21/2007	97.90		10.79	0.00	87.11
EMW-04	4/21/2007	98.14		11.31	0.00	86.83
EMW-05	4/21/2007	100.02		11.89	0.00	88.13
EMW-06	4/21/2007	99.15		10.79	0.00	88.36
HC-1R	4/21/2007	n/a		10.92	0.00	n/a
HC-4	4/17/2007	n/a	10.32	11.20	0.88	n/a
HC-5	4/21/2007	n/a		15.18	0.00	n/a
MW-5	4/21/2007	97.76		7.89	0.00	89.87
MW-11	4/21/2007	n/a	Present (1)	NA	Present (1)	n/a
TP-1 (2")	4/21/2007	n/a		16.80	0.00	n/a
TP-1 (4")	4/21/2007	n/a		16.61	0.00	n/a
TP-2	4/21/2007	n/a	12.48	13.20	0.72	n/a
TP-3	4/21/2007	n/a		19.92	0.00	n/a
TP-5	4/21/2007	n/a		13.57	0.00	n/a
TP-6	4/21/2007	n/a		12.57	0.00	n/a
TP-7	4/21/2007	n/a		14.17	0.00	n/a
TP-8	4/21/2007	n/a		14.84	0.00	n/a
TP-9	4/21/2007	n/a		15.58	0.00	n/a
TP-10	4/21/2007	n/a		5.42	0.00	n/a
TP-11	4/21/2007	n/a		5.41	0.00	n/a
TP-12	4/21/2007	n/a		12.54	0.00	n/a
EW-3	4/17/2007	n/a	Present (1)	NA	Present (1)	n/a
EW-4	4/17/2007	n/a	Present (1)	NA	Present (1)	n/a

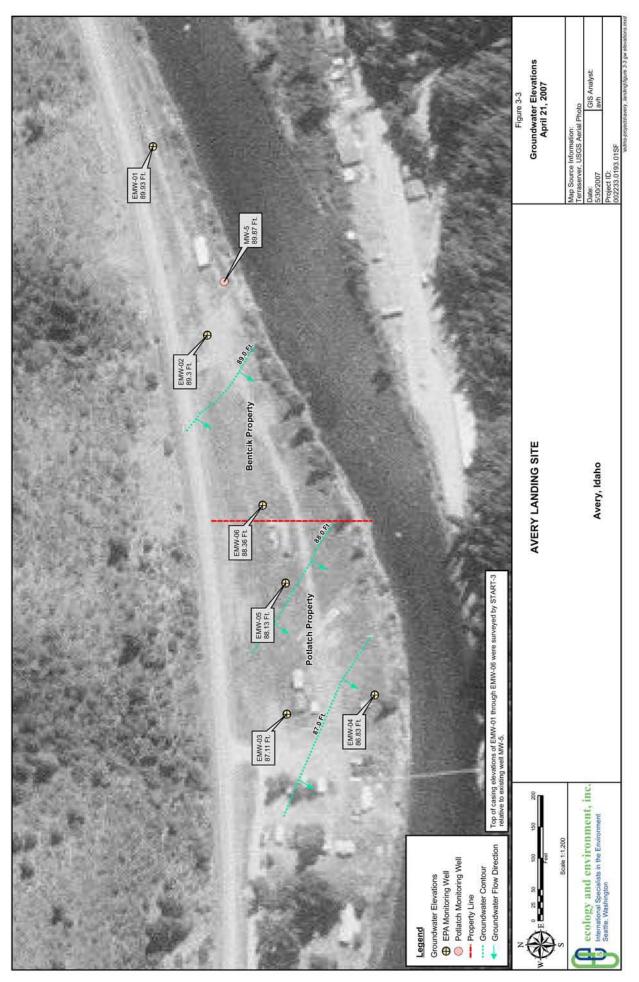
Notes: (1) A very viscous and sticky product was present; depths and thickness were not determined.

#### Key:

MSL = mean sea level n/a = not available NM = not measured







#### 4.0 SAMPLE COLLECTION AND ANALYSIS

For the removal assessment, START-3 collected samples of several different environmental media, including subsurface soil, groundwater, surface water, and product. All samples were collected and analyzed in accordance with the START-3 site-specific sampling plan (SSSP; E & E 2007). Samples were analyzed for VOCs, SVOCs, PCBs, Northwest Total Petroleum Hydrocarbons, Diesel Range Extended (NWTPH-Dx), and target analyte list (TAL) metals at commercial laboratories. Table 4-1 describes the samples collected by START-3, including the sample date, location, event, matrix, and analysis. Sample collection procedures and the results of analyses are described in this section.

#### 4.1 SAMPLE COLLECTION METHODS

#### 4.1.1 Subsurface Soil Samples

Subsurface soil samples were collected from split spoon samplers while the driller performed each boring. In general, one sample for each analytical parameter was collected from each boring. The depth selected for sampling typically depended on visual observations; in general, samples were collected from depth intervals that either were close to the groundwater interface or which exhibited evidence of free product. Sample collection was also performed on those depth intervals that provided good sample recovery. For some of the borings (e.g., ESB-04 and ESB-05), START collected two samples for specific analytes, depending on visual observations or other field conditions. For example, ESB-04 contained product at two distinct levels, so separate samples for SVOCs, PCBs, NWTPH-Dx, and TAL metals were collected at the different depth intervals from this boring.

After the geological information from each split spoon sample was recorded, START-3 placed it in a re-sealable plastic bags until the boring was complete. Once the boring was completed, START-3 selected the depth interval to be sampled for each parameter. Samples for SVOCs, PCBs, NWTPH-Dx, and TAL metals were then collected using dedicated, pre-cleaned stainless steel sampling tools into pre-cleaned glass sample containers provided by the laboratories.

Samples for VOC analyses were collected using SW-846 method 5035 to ensure that undisturbed samples were collected. START-3 used Lock N' Load™ handles and syringes, which collect an approximate 1-gram core of soil for analysis. Each sampling tip was dedicated, pre-cleaned, and used only once to prevent cross-contamination. In order to comply with method 5035, the samples were collected from undisturbed sample cores in the split spoon sampler. For some soil borings (e.g., EMW-04 and ESB-02), there were no undisturbed sample cores, so VOC samples were not collected for these borings.

The soil samples were collected from stainless steel split spoon samplers provided by the driller. The split spoon samplers were decontaminated between each use with hot, high-pressure water. Because the spilt spoon samplers were not dedicated, START-3 collected a rinsate blank sample (RB-01). The rinsate blank was collected by pouring deionized water over a decontaminated split spoon sampler and collecting the water into pre-cleaned sample containers. The rinsate blank was collected for all five analytical parameters, including VOCs, SVOCs, PCBs, NWTPH-Dx, and TAL metals.

#### 4.1.2 Groundwater Samples

Groundwater samples were collected from the six new EPA monitoring wells, two existing monitoring wells (HC-1R and MW-5), and the on-site domestic well. For all but two monitoring wells, the samples were collected using a peristaltic pump and a low flow technique. Dedicated polyethylene tubing and the peristaltic pump was used to pump water from the well at a target flow rate of approximately 1 liter per minute (L/min). During low flow sampling, START-3 monitored the groundwater for certain water quality parameters, including temperature, pH, conductivity, turbidity, dissolved oxygen, and salinity. The well was considered to have been purged and the sample was collected after the readings stabilized.

For most wells, START-3 was unable to achieve a flow rate of 1 L/min, which is attributed to a combination of the depths to groundwater and the elevation at the site (approximately 2,500 feet above mean sea level). The sample flow rates were much slower than 1 L/min, which increased the time required to purge and collect the samples. Therefore, for the final two monitoring wells, (EMW-02 and EMW-06), START-3 used dedicated bailers to purge water from the well and collect the samples. A minimum of three well volumes was bailed from each well prior to sampling, and START-3 did not monitor the bailed wells for water quality parameters.

After each monitoring well was properly purged, sample collection was performed by pouring water from either the polyethylene tubing or the bailer directly into the pre-cleaned sample bottles.

#### 4.1.3 Surface Water Samples

Surface water samples were collected by dipping a pre-cleaned glass sample bottle into the St. Joe River. At the SW-01 location, the river was deep enough that all of various sample bottle sizes could be dipped into the river. However, for those analytical parameters that required preservative (VOCs, NWTPH-Dx, and TAL metals), a glass bottle without preservative was used to collect the water sample and then pour it into the appropriate pre-preserved sample bottle. At the SW-02 and S-03 location, the surface of the water was just above riprap, and there was not enough depth in the water to use every type of sample bottle. Therefore, a pre-cleaned 8-ounce jar was used to collect the water and then pour it into the appropriate sample bottles.

## 4.1.4 Product Sample

The product sample from existing monitoring well HC-4 was collected with a dedicated, precleaned polyethylene bailer. Because the sample was product and not groundwater, the well was not purged prior to sampling. The sample was collected directly from the bailer to the appropriate, precleaned sample jars.

#### 4.1.5 Sample Preservation and Storage

Water samples for certain analytical parameters required preservation. Water samples for VOCs and NWTPH-Dx were preserved with hydrochloric acid, and water samples for TAL metals were preserved with nitric acid. In both cases, sufficient acid preservative was added to adjust the pH of the water sample to below a target of 2 standard units. All samples were stored in coolers with ice and maintained at a temperature of approximately 4 degrees Celsius (°C) until START-3 personnel delivered them to the laboratories. Additionally, one trip blank sample (TB-01) was collected for VOC analysis. The trip blank (prepared with deionized water) was provided by the laboratory and was designed to detect any potential cross-contamination of VOCs during sample storage and transfer.

#### 4.1.6 Analytical Parameters

The samples were submitted by START-3 personnel to the analytical laboratories under proper chain of custody. Copies of the chains of custody are presented in Appendix C. Samples were submitted to both STL-Seattle, Inc. (STL) in Tacoma, Washington, and Laucks Testing Laboratories, Inc. (Laucks) in Seattle, Washington. The samples were submitted for the following parameters at the two laboratories:

STL SVOCs, PCBs<sup>2</sup>

Laucks VOCs, NWTPH-DX, TAL Metals

#### 4.2 SUMMARY OF RESULTS

The analytical results for the samples from the Avery Landing Site are summarized in Tables 4-2 through 4-17. Copies of the analytical data reports and associated data validation memoranda are included in Appendix D. In addition to a presentation of the analytical results, the samples have been compared to applicable or relevant and appropriate requirements (ARARs), which are discussed in the next section.

<sup>&</sup>lt;sup>2</sup> Note also that samples were submitted to STL for low-level mercury analyses, in the event that lower detection limits for mercury were required. The low-level mercury analyses were not performed.

### 4.2.1 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

For the Avery Landing removal assessment, START-3 compared the analytical results to several federal and state guidelines or standards. Federal ARARs include the National Primary and Secondary Drinking Water Regulations (MCLs; EPA 2003); the EPA Region 6 Human Health Medium-Specific Screening Levels (HHMSSL) for residential soil, industrial soil, and tap water (groundwater and the domestic well sample; EPA 2007a); and the Ambient Water Quality Criteria (AWQC) for fresh surface water (Buchman 1999). State ARARs or criteria to be considered (TBCs) included the Primary and Secondary Constituent Standards for Groundwater<sup>3</sup> (IDAPA 58.01.11) and the Idaho Risk Evaluation Manual (REM; DEQ 2004) for soil, groundwater, and surface water. The data summary tables include these ARARs and indicates any compounds that exceed them. Compounds that exceed ARARs are discussed briefly in the following sections, while a more thorough discussion of the sample results compared to the ARARs is presented in Section 4.3.1.

In addition to the ARARs which list specific action levels or cleanup guidelines for specific contaminants, the state of Idaho also regulates petroleum hydrocarbons through the Water Quality Standards (IDAPA 58.01.02) and the Land Remediation Rules (IDAPA 58.01.18). The results of the free product observations will be compared to these standards in Section 4.3.2.

### 4.2.2 Soil Sample Results

The results of VOC analyses are summarized in Table 4-2. Detected compounds included 2-butanone, with a maximum concentration of 54 J micrograms per kilogram (μg/kg); carbon disulfide with a maximum concentration of 3.1 μg/kg; chlorobenzene with a maximum concentration of 31 J μg/kg; ethylbenzene with a maximum concentration of 540 J μg/kg; and xylenes with a maximum concentration of 25 J μg/kg. Additional compounds detected included benzene (5.9 J μg/kg) and toluene (17 J μg/kg), which were both detected in one boring (EMW-01; the background well). In general, most VOC detections in soils were relatively low, and many detections were flagged with a "J" qualifier indicating the result was less than the reporting limit. None of the results exceeded any of the state or federal ARARs.

The results of SVOC analyses are summarized in Table 4-3. Several SVOCs were detected in some of the site samples at concentrations higher than 1,000 μg/kg, including 1-methylnaphthalene, with a maximum concentration of 30,000 μg/kg (boring EMW-06); acenaphthene, with a maximum concentration of 3,200 μg/kg (boring EMW-06); 2-methylnapthalene with a maximum concentration of 4,900 μg/kg (boring EMW-06); naphthalene with a maximum concentration of 6,000 J μg/kg (boring ESB-03); and phenanthrene

<sup>&</sup>lt;sup>3</sup> Note that for most compounds, the state groundwater standard is the same as the federal drinking water standard.

with a maximum concentration of 5,800 μg/kg (boring EMW-05). Other SVOCs detected at lower concentrations in the site soil samples include 2-chloronaphthalene, 4-nitoaniline, acenaphthylene, anthracene, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[g,h,i]perylene, benzo[k]fluoranthene, bis(2-chloroethoxy)methane, bis(2-ethylhexyl)phthalate, carbazole, chrysene, dibenz[a,h]anthracene, dibenzofuran, di-n-butyl phthalate, fluoranthene, indeno[1,2,3-cd]pyrene, and pyrene. Most of the detected compounds are polynuclear aromatic hydrocarbons (PAHs)<sup>4</sup>, and many exceeded state and/or federal ARARs in most of the site samples.

Table 4-4 includes the results of PCB and NWTPH-Dx analyses. Aroclor-1260 was detected in nine of the 13 soil borings, with a maximum concentration of 130  $\mu$ g/kg in boring EMW-03. Aroclor-1260 was also detected in the background well EMW-01 at a concentration of 9.8 J  $\mu$ g/kg. No other Aroclor was detected, and none of the PCB detections exceeded any of the state or federal ARARs.

The results of the NWTPH-Dx analyses are also in Table 4-4. The results indicate that all of the samples contained diesel-range organics (DRO), and all but one contained oil-range organics (ORO). Ten of the 13 samples contained DRO at concentrations greater then 1,000 milligrams per kilogram (mg/kg), and three were detected at concentrations greater than 10,000 mg/kg<sup>5</sup>. The highest DRO concentration detected was 17,000 mg/kg in ESB-03. ORO was detected in 11 samples at concentrations greater than 1,000 mg/kg and in one sample greater than 10,000 mg/kg. ORO was detected at a maximum concentration of 12,000 mg/kg in EMW-01 (the background boring).

The results of the TAL metals analyses for soil samples are summarized in Table 4-5. Most of the TAL metals were detected in nearly all of the soil samples, and the soil samples were generally similar in the concentrations of metals that they contained. For example, all soil samples contained the following metals at similar concentrations: aluminum ranged from 7,760 to 19,500 mg/kg; arsenic ranged from 4.2 J to 17 J mg/kg; and iron ranged from 15,000 to 24,600 mg/kg. Notable exceptions included lead and mercury. For most samples, lead ranged from approximately 2.3 to 17.3 mg/kg, but it was present in two samples at concentrations of 145 mg/kg (EMW-04 SB 03) and 159 mg/kg (ESB-02 SB 03). Mercury ranged from not detected to 0.0553 J mg/kg in most samples, but it was present in one sample at a concentration of 0.117 mg/kg (ESB-02 SB 03). Several metals were present at concentrations that exceeded ARARs, including arsenic, iron, lead, manganese, and mercury.

<sup>5</sup> 10,000 mg/kg is the equivalent of 1% by weight.

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<sup>&</sup>lt;sup>4</sup> PAHs are a class of over 100 similar compounds that are typically associated with petroleum products. Common PAHs include acenaphthene, acenaphthylene, anthracene, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[g,h,i]perylene, benzo[k]fluoranthene, chrysene, dibenz[a,h]anthracene, fluoranthene, fluorene, indeno[1,2,3-cd]pyrene, naphthalene, phenanthrene, and pyrene.

### 4.2.3 Groundwater Sample Results

The VOC results for groundwater samples are summarized in Table 4-6. Only two VOCs were detected, including acetone and chlorobenzene. Acetone was detected in three samples (EMW-03, EMW-04, and HC-1R) at concentrations ranging from 1.6 J to 3.2 J micrograms per liter ( $\mu$ g/L). Note, however, that acetone is a common laboratory contaminant. Chlorobenzene was detected in two samples, including EMW-05 at a concentration of 1.4  $\mu$ g/L and EMW-06 at a concentration of 3.6  $\mu$ g/L. No VOC exceeded any of the state or federal ARARs.

The results of SVOC analyses on groundwater are in Table 4-7. Several PAH and related compounds were detected in several of the site samples. For example, 1-methylnaphthalene was detected in several site samples with a maximum concentration of 210 µg/L (EMW-06), and 2-methylnapthalene was detected in several samples with a maximum concentration of 270 µg/L (EMW-06). Most of the PAH compounds, including naphthalene, fluorene, acenaphthene, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, benzo[g,h,i,]perylene, chrysene, fluorene, fluoranthene, naphthalene, phenanthrene, and pyrene, were also detected in several of the site samples. Several non-PAH compounds were also detected; for example, the chlorinated compound 1,2-dichlorobenzene was detected in several samples at low concentrations (maximum concentration of 0.53 J µg/L in EMW-06), and 1,4-dichlorobenzene was also detected at trace levels (0.051 J µg/L) in EMW-06. N-Nitrosodiphenylamine was also detected in EMW-06 at a concentration of 12 µg/L. Bis(2-ethylhexyl) phthalate was detected in several of the site samples, but note that phthalates are components of plastic; they are often present in plastic well casing materials, and they are also common laboratory contaminants. In general, monitoring well EMW-06 contained the highest concentrations of those compounds that were detected, and several of the compounds in EMW-06 and other site wells exceeded state and federal ARARs. The background well EMW-01 did contain a few of the PAH compounds at trace concentrations. The domestic well DW-01 contained a trace amount of anthracene (0.0026 J µg/L) and some phthalates.

Table 4-8 presents the results of PCBs and NWTPH-Dx for groundwater samples. PCBs were detected in only one well; EMW-06 contained Aroclor 1260 at a concentration of 0.028 J  $\mu$ g/L, and this concentration exceeded the Idaho REM guideline. DRO was detected in all of the wells except MW-05, and ORO was detected in all wells but EMW-01 and the domestic well DW-01. EMW-06 contained the highest concentrations of both, with DRO at a concentration of 110,000  $\mu$ g/L and ORO at a concentration of 45,000  $\mu$ g/L. Six of the nine wells on site contained both DRO and ORO. Note also that the upgradient well EMW-01 contained DRO at a concentration of 83  $\mu$ g/L, and the domestic well DW-01 contained DRO at a concentration of 79  $\mu$ g/L.

Table 4-9 summarizes the results of TAL metals for groundwater samples. Aluminum was detected at a maximum concentration of 32,200  $\mu$ g/L in EMW-06. Arsenic was detected in all of the samples, and it was detected at concentrations higher than 10  $\mu$ g/L (the Idaho REM guideline) in six of the samples. Arsenic was detected at a maximum concentration of 88.6  $\mu$ g/L in EMW-02. Iron was detected in several samples at concentrations greater than most of the ARARs, with a maximum concentration of 80,500  $\mu$ g/L in EMW-06. Lead was detected in one sample (EMW-06) at a concentration of 39.8  $\mu$ g/L, which exceeds state and federal ARARs. Manganese was detected at elevated concentrations (above state and federal ARARs) in several site samples, with a maximum concentration of 5,630  $\mu$ g/L in HC-1R. In general, concentrations of metals were lower in EMW-01, MW-5, and the domestic well DW-01.

### 4.2.4 Surface Water Sample Results

The results for VOC analyses performed on the surface water samples are presented in Table 4-10. No VOCs were detected in any of the surface water samples.

Table 4-11 presents the SVOC results for the surface water samples. The upstream/background sample (SW-01) did not contain any SVOCs. The two samples located near active seep areas (SW-02 and SW-03) did contain relatively low concentrations of SVOCs, including 1-methylnaphthalene (0.041 and 0.34  $\mu$ g/L, respectively), 2-methylnaphthalene (0.014 J and 0.11  $\mu$ g/L), and other PAHs. All concentrations were less than 1.0  $\mu$ g/L, and concentrations in SW-03 were generally higher than those in SW-02. SW-03 also contained a few PAH compounds that were not present in SW-02, including benzo[a]anthracene at 0.011 J  $\mu$ g/L, benzo[a]pyrene at 0.027  $\mu$ g/L, benzo[b]fluoranthene at 0.023 J  $\mu$ g/L, and chrysene at 0.016 J  $\mu$ g/L. All three of these PAHs were present at concentrations in SW-03 that exceeded the Idaho REM guideline for surface water. Additionally, benzo[a]pyrene exceeded the federal AWQC.

Table 4-12 presents the results of PCBs and NWTPH-Dx for surface water. PCBs were not detected in any of the surface water samples. The upstream sample (SW-01) did not contain either DRO and ORO. DRO was present in both SW-02 (320  $\mu$ g/L) and SW-03 (2,300  $\mu$ g/L), and ORO was present in SW-03 (1,200  $\mu$ g/L).

The TAL metals results for surface water are presented in Table 4-13. Generally, the results indicate that metals concentrations in the three samples were very similar. Arsenic, barium, calcium, iron, magnesium, manganese, potassium, and sodium were all detected in the three samples, including the upstream sample (SW-01), at very similar concentrations. Barium exceeded the federal AWQC (4.0  $\mu$ g/L) in all three samples (results ranged from 4.71 J to 5.11 J  $\mu$ g/L).

### 4.2.5 Product Sample Results

Table 4-14 presents the results of VOC analysis on the product sample from HC-4. The sample contained bromodichloromethane at a concentration of 1,500 J  $\mu$ g/L, chlorobenzene at a concentration of 1,600 J  $\mu$ g/L, and methylene chloride<sup>6</sup> at a concentration of 2,700  $\mu$ g/L. No other VOC was detected, and none of the ARARs identified for the site applies to the product sample.

Table 4-15 presents the results of the SVOC analyses of the product sample. The SVOCs with the highest concentrations included 1-methylnaphthalene at 1,700,000 μg/kg and 2-methylnaphthalene at 2,400,000 μg/kg. Other SVOCs detected at lower concentrations included the PAHs acenaphthene, anthracene, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, chrysene, fluoranthene, fluorene, naphthalene, phenanthrene, and pyrene. None of the site ARARs applies to the product sample.

The results of the PCB and NWTPH-Dx analyses are presented in Table 4-16. The product sample contained Aroclor-1260 at a concentration of 330 J  $\mu$ g/kg. No other Aroclor was detected. The product sample contained DRO at a concentration of 1,100,000 mg/kg. Note that the reported concentration is greater than 100%. This is a common occurrence with product analysis, and it is an artifact of the analytical process whereby a small aliquot of sample is diluted for analysis and then the diluted concentration is multiplied by the dilution factor to obtain the sample concentration. Effectively, the sample is primarily diesel, with a smaller concentration of ORO (260,000 mg/kg).

Table 4-17 presents the results of the TAL metals analysis of the product sample. The results indicate that many of the TAL metals were detected in the product sample, including aluminum at a concentration of 71.2 mg/kg, arsenic at a concentration of 3.1 mg/kg, chromium at a concentration of 3.4 mg/kg, and lead at a concentration of 1.6 mg/kg.

### 4.3 SUMMARY OF ARAR EXCEEDENCES

### 4.3.1 Analytical Data

Tables 4-18 through 4-21 have been prepared to further summarize the analytical data relative to the site ARARs. These tables present only those compounds that were present in any of the site samples in concentrations greater than any of the state or federal standards or guidelines that were determined to be ARARs or TBCs for the site. Additionally, these tables present the samples separated by property (e.g., Bentcik and Potlatch properties). Figures 4-1 through 4-4 also present this data graphically.

Table 4-18 and Figure 4-1 present those compounds in the subsurface soil samples that exceeded the EPA Region 6 HHMSSL for residential soil. Of the SVOCs, benzo[a]pyrene exceeded the HHMSSL of 15 µg/kg in most of the site samples, benzo[a]anthracene exceeded the HHMSSL of 150 µg/kg in two

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<sup>&</sup>lt;sup>6</sup> Note that methylene chloride is also a common laboratory contaminant.

of the site samples, and benzo[b]fluoranthene exceeded the HHMSSL of 150 µg/kg in one site sample. Arsenic also exceeded the HHMSSL of 0.39 mg/kg in all of the site samples. However, note that the upper limit of background soil concentrations for arsenic in the nearby Coeur d'Alene and Spokane River basins is 22 mg/kg (URS Greiner 2001). Also, all of the arsenic results are estimated values, because the matrix spike results were biased high (i.e., arsenic concentrations were likely over-estimated.) With the exception of benzo[b]fluoranthene, the exceedences were evenly distributed over the two properties. There were no federal exceedences in soil for VOCs or PCBs, and there are no regulatory standards for DRO/ORO.

Table 4-19 and Figure 4-2 present state exceedences for the soil samples. Because many of the State of Idaho REM guidelines are lower than EPA's HHMSSL guidelines, there are more exceedences listed in this table. For SVOCs, 2-methylnaphthalene, benzo[a]pyrene, and naphthalene exceeded the applicable REM guideline in many of the site samples on both properties. Additionally, 4-nitroaniline, benzo[a]anthracene, and benzo[b]fluoranthene each exceeded the applicable guidelines in only one sample, all on the Bentcik property. The metals arsenic, iron, lead, manganese, and mercury exceeded applicable guidelines, and the distribution between the two properties was fairly even. For the arsenic results, though, the same qualifiers discussed in the preceding paragraph apply. For mercury, note that with the exception of the result for ESB-02 (0.117 mg/kg), the results are estimated values less than the reporting limit. There were no state exceedences in soil for VOCs or PCBs, and there are no regulatory standards for DRO/ORO.

Federal exceedences in water samples are presented in Table 4-20 and Figure 4-3. For SVOCs in groundwater, benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthrene, benzo[g,h,i]perylene, chrysene, and naphthalene all exceeded the EPA HHMSSL for tap water. Most of these SVOC exceedences (with the exception of two) occurred on the Bentcik property (in EMW-02 and EMW-06, only). For metals in groundwater, aluminum, arsenic, iron, lead, and manganese exceeded either the HHMSSL for tap water and/or the drinking water MCL in the site samples. With the exception of aluminum and lead, which exceeded the MCL in more samples and/or at higher concentrations on the Bentcik property, the metals exceedences in groundwater was fairly evenly distributed across the two properties. There were no federal exceedences in groundwater for VOCs or PCBs, and there are no regulatory standards for DRO/ORO. For surface water, only one SVOC (benzo[a]pyrene) exceeded the federal AWQC. There were no federal exceedences in surface water for VOCs, PCBs, or TAL metals<sup>7</sup>, and there are no regulatory standards for DRO/ORO.

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<sup>&</sup>lt;sup>7</sup> Not including barium, which was detected at similar concentrations above the federal AWQC in all three surface water samples, including the upstream/background sample SW-01.

Table 4-21 and Figure 4-4 present state exceedences for water samples. For SVOCs, 2-methyl naphthalene, benzo[a]anthracene, benzo[a]pyrene, benzo[a]fluoranthene, and N-nitrosodiphenyl amine exceeded the applicable Idaho REM guidelines in two site samples (EMW-02 and EMW-06), both of which are located on the Bentcik property. Additionally, benzo[a]pyrene exceeded the state groundwater standard of 0.20 μg/L in EMW-02 and EMW-06. For metals, aluminum, arsenic, iron, lead<sup>8</sup>, and manganese exceeded the state groundwater standards in EMW-02 and/or EMW-06 on the Bentcik property, and arsenic, iron, and manganese exceed the state groundwater standards in EMW-03, EMW-04, EMW-05, and HC-1R on the Potlatch property. Aluminum also exceeded the state groundwater standard in EMW-05 on the Potlatch property. Additionally, arsenic, iron, and manganese exceeded the Idaho REM guidelines in several wells on both properties, and lead exceeded the REM guideline in EMW-06 on the Bentcik property. The PCB Arcolor-1260 exceeded the Idaho REM guideline in EMW-06 on the Bentcik property. No VOC state exceedences occurred in groundwater samples, and there are no regulatory standards for DRO/ORO. For surface water, four SVOC compounds (benzo[a]anthracene, benzo[a]pyrene, benzo[a]fluoranthrene, and chrysene) exceeded the applicable Idaho REM guideline in SW-03.

### **4.3.2** Free Product Observations

Although there are no state regulatory standards for DRO and ORO, petroleum hydrocarbons are still regulated by the state of Idaho. Idaho Water Quality Standards (IDAPA 58.01.02) defines free product as a petroleum product that is present as a non-aqueous phase liquid on surface water or the water table at greater than one-tenth (0.1) inch (IDAPA 58.01.02.010.38). The Water Quality Standards also require owners and operators of a site with free product to "remove free product to the maximum extent practicable" (IDAPA 58.01.02.852.04). Additionally, the presence of free product or a sheen on surface water subjects the owner/operator to notification and/or cleanup requirements (IDAPA 58.01.02.851.04 and 58.01.02.852.05). START-3 observed free product in two existing site wells at thicknesses of 0.88 and 0.72 feet, which are greater than 0.1 inch, and in three other existing wells where the thickness could not be determined. Free product will also likely be observed in the newly installed monitoring wells after site groundwater conditions are able to equilibrate. START-3 also observed free product and sheens in the St. Joe River.

The Idaho Land Remediation Rules (IDAPA 58.01.18) also address petroleum contamination in soil and require that petroleum contamination be addressed through remediation to appropriate remediation standards, which include attainment of natural background levels (IDAPA 58.01.18.023). As

<sup>&</sup>lt;sup>8</sup> Lead exceeded the state groundwater standard in EMW-06, only.

discussed in Section 3.1.2, START-3 observed evidence of free product in soil samples from 10 of the 13 soil borings.

The results of the NWTPH-Dx analyses confirm the presence of petroleum hydrocarbons in soil, groundwater, and surface water samples from the site. These results and the visual observations made by START-3 during the site investigation document that free product is present at the site on groundwater, on surface water, and in the subsurface soil at levels that exceed applicable state regulatory standards.

Although the state of Idaho does not use DRO or ORO action levels to regulate petroleum, the state of Washington does. The Model Toxics Control Act (MTCA) Method A soil cleanup level for unrestricted use (i.e., residential) is 2,000 mg/kg for DRO and 2,000 mg/kg for heavy oils (ORO). The MTCA Method A cleanup level for groundwater is 500 μg/L for DRO and 500 μg/L for heavy oils (ORO). Although these cleanup levels are not ARARs for the Avery Landing site, they are being included as TBCs to identify potential cleanup guidelines for the site. Of the 13 soil samples analyzed for NWTPH-Dx, 11 contained either DRO, ORO, or both at concentrations that exceeded 2,000 mg/kg. In the site soil samples, DRO was detected at a maximum concentration of 17,000 mg/kg, and ORO was detected at a maximum concentration of 12,000 mg/kg. Of the nine groundwater samples, six contained both DRO and ORO at concentrations that exceeded 500 μg/L, with DRO detected at a maximum concentration of 45,000 μg/L.

### 4.4 COMPARISON OF SOIL RESULTS TO SEDIMENT GUIDELINES

Because of the active seeps of petroleum product to the river and the presence of free product on the groundwater directly adjacent to the river, there is a potential impact to river sediments. However, START-3 was unable to collect sediment samples from the site because of the large riprap that covered the bank of the St. Joe River. To assess potential impacts to sediment, the soil results have been compared to the consensus-based freshwater sediment quality guidelines (SQGs; MacDonald et al. 2000). Because sediment samples were not collected, the SQGs were not included in the data summary tables and they were not included in the ARAR discussions in Section 4.3. However, there is a potential relationship between soil and sediment; some zones of the river bank may be submerged for part of the year and be considered sediment, while they may be considered soil at times of lower river stage. Additionally, erosion or earthwork performed on the bank may lead to exposed subsurface soil that may then be considered as sediment. To evaluate the potential impacts if site sediments contained the types and levels of contamination similar to that found in the soil, the soil results have been compared to the sediment SQGs.

Table 4-22 presents a comparison of soil results to applicable SQGs. For this comparison, the consensus-based threshold effect concentrations (TECs) were used. TECs were available for PAHs (subset of SVOCs), PCBs, and metals. For clarity, Table 4-22 only includes those compounds with an associated TEC. The comparison indicates that many of the compounds detected in the soil samples exceeded the sediment TECs. All but one of the PAH compounds with a TEC value were present in the site soil samples at concentrations that exceeded the applicable sediment TEC. Aroclor-1260 was detected in one sample at a concentration that exceeded the sediment TEC for total PCBs. Of the metals, arsenic, copper, lead, and nickel were all present at concentrations in the soil that exceeded the applicable sediment TEC.

### Summary of START-3 Samples Avery Landing Site Avery, Idaho

EPA					
Sample ID	Location ID	Sample Date	Sample Time	Matrix	Analyses
07040101	EMW-01 SB 06	4/16/2007	15:00	Soil	VOCs
07040102	EMW-01 SB 02	4/16/2007	15:15	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040103	EMW-02 SB 05	4/17/2007	8:15	Soil	VOCs
07040104	EMW-02 SB 07	4/17/2007	8:25	Soil	SVOCs and PCBs
07040105	EMW-02 SB 05	4/17/2007	8:40	Soil	TAL Metals and NWTPH-Dx
07040106	EMW-03 SB 11	4/17/2007	11:45	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040107	EMW-03 SB 11	4/17/2007	11:45	Soil	VOCs
07040108	EMW-04 SB 03	4/17/2007	14:50	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040109	EMW-05 SB 09	4/18/2007	7:51	Soil	VOCs
07040110	EMW-05 SB 09	4/18/2007	8:00	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040111	RB-01 (Rinse Blank)	4/18/2007	9:00	Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040112	EMW-06 SB 07	4/18/2007	10:40	Soil	VOCs
07040113	EMW-06 SB 07	4/18/2007	10:50	Soil	TAL Metals
07040114	EMW-06 SB 09	4/18/2007	10:50	Soil	SVOCs, PCBs, and NWTPH-Dx
07040115	ESB-01 SB 07	4/18/2007	13:45	Soil	VOCs
07040116	ESB-01 SB 07	4/18/2007	13:45	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040117	ESB-02 SB 03	4/18/2007	14:45	Soil	SVOCs, PCBs, and TAL Metals
07040118	ESB-03 SB 09	4/18/2007	15:45	Soil	VOCs
07040119	ESB-03 SB 11	4/18/2007	15:55	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040120	ESB-04 SB 03	4/18/2007	16:50	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040121	ESB-04 SB 07	4/18/2007	16:50	Soil	VOCs
07040122	ESB-04 SB 07	4/18/2007	16:50	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040123	ESB-05 SB 09	4/19/2007	7:50	Soil	VOCs
07040124	ESB-05 SB 15	4/19/2007	8:08	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040125	ESB-05 SB 23	4/19/2007	9:15	Soil	SVOCs and PCBs
07040126	ESB-06 SB 09	4/19/2007	11:04	Soil	VOCs
07040127	ESB-06 SB 11	4/19/2007	11:11	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040128	ESB-07 SB 07	4/19/2007	12:07	Soil	VOCs
07040129	ESB-07 SB 13	4/19/2007	12:29	Soil	SVOCs, PCBs, TAL Metals, and NWTPH-Dx
07040130	TB-01 (Trip Blank)	4/20/2007	15:00	Water	VOCs
07040131	HC-4	4/20/2007	9:50	Product	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040132	SW-01	4/20/2007	10:45	Surface Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040133	SW-02	4/20/2007	11:20	Surface Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040134	SW-03	4/20/2007	12:00	Surface Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040135	EMW-01	4/21/2007	9:15	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040136	EMW-02	4/21/2007	17:50	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040137	EMW-03	4/21/2007	12:00	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040138	EMW-04	4/21/2007	14:16	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040139	EMW-05	4/21/2007	15:47	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040140	EMW-06	4/21/2007	17:45	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040141	HC-1	4/21/2007	13:10	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040142	MW-5	4/21/2007	10:53	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx
07040143	DW-01	4/21/2007	14:20	Ground Water	SVOCs, VOCs, PCBs, TAL Metals, and NWTPH-Dx

Note: The two digits at the end of the soil sample Location ID indicates the depth, in feet below ground surface, where the sample was collected.

Key:

DW = domestic well EMW = EPA monitoring well

EPA = U.S. Environmental Protection Agency

ESB = EPA soil boring
HC = Hart Crowser
ID = identification
MW = monitoring well

NWTPH-Dx = Northwest Total Petroleum Hydrocarbons, Diesel-Range Extended

PCBs = polychlorinated biphenyls

RB = rinse blank SB = soil boring

START = Superfund Technical Assessment and Response Team

SVOCs = semivolatile organic compounds

SW = surface water

TAL = Target Analyte List (Metals)

TB = trip blank

					Summary	Summary of Volatile Organic Compund Results in Soil Samples Avery Landing Site Avery, Idaho	organic Compund Resu Avery Landing Site Avery, Idaho	ilts in Soil Sample	sa						
Sample Number:	07040101	07040103	07040107	07040109	07040112	07040115	07040118	07040121	07040123	07040126	07040128	07040111		ARARs	
Commle I contions	EMW 01 8D 06	Ğ	EMW 03 SD 11	9	EMW 06 SB 07	ŭ	ESD 03 SD 00	ESD 04 SD 07	ESD 05 SD 00	Ĕ	70 ds 20 dsa	RB-01 (Rinsate	Idaho R FM (1)	EPA Region 6 Residential (2)	EPA Region 6 Industrial (2)
VOCs (µg/kg)	CM 10-10 20 00	CO GC ZO WINT	11 GC CO-11 M	O TE CO MANY	10 GC 00-WW7	10 10 10 10 1	000000000000000000000000000000000000000	20 00 00 00 00 00 00 00 00 00 00 00 00 0	Concord on the		20 20 20 20 20 20 20 20 20 20 20 20 20 2	(µg/L)			
1,1,1-Trichloroethane	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	2,000	1,385,378	1,385,378
1,1,2,2-Tetrachloroethane	3.3 UJ	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 UJ	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	0.92	384	026
1,1,2-Trichloroethane	3.3 U	3.9 U	3.9 U	2.6 U		2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	14	844	2,078
1,1-Dichloroethane	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	3,479	845,964	2,332,719
1,1-Dichloroethene	3.3 U	0.68	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	I.0 U	39	280,000	470,000
1,2-Dichloroethane	3.3 U	0 6.€	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	I.0 U	7.7	350	840
cis-1,2-Dichloroethene	3.3 U	0.68	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	I.0 U	193	43,000	160,000
trans-1,2-Dichloroethene	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	I.0 U	365	120,000	200,000
1,2-Dichloropropane	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	I.0 U	8.9	351	847
cis-1,3-Dichloropropene	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	2.4	700	1,700
trans-1,3-Dichloropropene	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	I.0 U	2.4	700	1,700
2-Butanone	24 J	21	17	29	39 J	9.6 U	10 U	31 J	26 J	54 J	19 J	5.0 U	11,800	32,000,000	32,000,000
2-Hexanone	6 J	13 U	13 U	8.5 U	12 UJ	9.6 U	$\Omega$ $\theta I$	II~UJ	II $U$	12 U	$f\Omega$ 6	5.0 U	n.a.	n.a.	n.a.
4-Methyl-2-pentanone	II $U$	13 U	13 U	8.5 U	12 UJ	9.6 U	$\Omega$ $\theta I$	H $UJ$	II $U$	12 U	$\Omega$ 6	5.0 U	n.a.	n.a.	n.a.
Acetone	85 J	130	93	160	190 J	16 J	6.1 J	230 J	110 J	150 J	78	2.0 J	17,405	14,150,596	60,479,805
Benzene	5.9 J	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	I.0 U	18	656	1,598
Bromodichloromethane	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	2.7	1,026	2,559
Bromoform	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	29	62,000	240,000
Bromomethane	3.3 UJ	3.9 UJ	3.9 UJ	2.6 UJ	3.5 UJ	2.9 UJ	3.1 UJ	3.4 UJ	3.4 UJ	3.6 UJ	2.7 UJ	1.0 U	50	3,905	14,561
Carbon disuinde	3.3 U	3.9 U	3.9 U	3.1	2.3 J	2.9 U	3.1 U	2.0 J	2.1.5	3.0 U	2.7 UJ	0.07	1/6,6	7.21,254	457,77
Chlorobenzene	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 0.1	11	240	582
Chloroethane	3.3 U	11 68	3.9 U	2.6 U	3.5 UI	2.9 U	0 1.8	3.4 U.I	3.4 U	0 9.6	2.7 1.1	0 67	53	n.a.	n.a.
Chloroform	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	5.6	245	280
Chloromethane	3.3 U	3.9 U	3.9 UJ	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	23	1,261	2,982
Dibromochloromethane	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	I.0 U	n.a.	n.a.	n.a.
Dichlorodi fluoromethane	3.3 UJ	3.9 UJ	3.9 UJ	2.6 UJ	3.5 UJ	2.9 UJ	3.1 UJ	3.4 UJ	3.4 UJ	3.6 UJ	2.7 UJ	1.0 U	2,957	94,077	339,733
Ethylbenzene	2.7 J	3.8 J	3.9 U	56	3.5 UJ	2.9 U	3.1 U	3.4 UJ	540 J	13 J	1.8 J	I.0 U	10,200	233,948	233,948
Methylene chloride	3.3 U	5.1 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	7.9 U	2.7 UJ	3.7	17	8,898	22,254
Styrene	2.8 J	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	I.0 U	1,830	1,733,844	1,733,844
Tetrachloroethene	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	24 U	3.6 U	2.7 UJ	1.0 U	29	550	1,700
Toluene	17 J	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	I.0 U	4,885	521,170	521,170
Trichloroethene	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	I.0 U	2.9	43	100
Trichlorofluoromethane	3.3 U	3.9 U	3.9 U	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	10,376	386,624	1,420,861
Vinyl chloride	3.3 U	3.9 U	3.9 UJ	2.6 U	3.5 UJ	2.9 U	3.1 U	3.4 UJ	3.4 U	3.6 U	2.7 UJ	1.0 U	10	43	863
m,p-Xylene	7.1 J	7.8 U	7.7 U	6.4	7.1 UJ	5.8 U	6.2 U	6.7 UJ	25 J	7.2 U	2 J	2.0 U	1,666 (3)	210,000	210,000 (3)
o-Aylene Notes:	Telice indicates th	Telling indicates the common and satisfaction	O C.C	0 0.7	3.5	2.7 0	5.7	5.4	6.01	60.7	7.7	0 0.1	2004	000,012	200,012

Italities indicates the compound was not detected.

Bold type indicates the compound exceeded the Idaho REM value.

Underline type indicates the compound exceeded the EPA Region 6 residential guideline.

Highlighted cell indicates the compound exceeded the EPA Region 6 industrial guideline.

(1) Idaho Risk Evaluation hamatal (DEQ 2004).

(2) EPA Region 6 Medium-Specifie Human Health Screening Levels (EPA 2007a).

(3) Xylene standards are for total xylene.

Key:

ARAR = applicable or relevant and relevant requirement

ID = identification

J = estimated value

µg/kg = micrograms per kilogram

µg/L = micrograms per liter

REM = Risk Evaluation Manual

U = not detected (at the indicated reporting limit)

UJ = not detected (estimated reporting limit)

# Table 4-3 Summary of Semivolatile Organic Compund Results in Soil Samples Avery Landing Site Avery, Idaho

Semple   Color									1			
Note   Part   Note	Sample ID:	07040102	07040104	07040106	07040108	07040110	07040114	07040116	07040117		ARARs	ı
Sample Leafwards (1980) 8 (2019) 8 (2019) 8 (2019) 8 (2019) 8 (2019) 8 (2019) 8 (2019) 8 (2010) 8 (2010) 8 (2010) 8 (2010) 8 (2019) 8 (201										Idaho	EPA	EPA
Section   Sect												
13-4 Technologous	Sample Location:	EMW-01 SB 02	EMW-02 SB 07	EMW-03 SB 11	EMW-04 SB 03	EMW-05 SB 09	EMW-06 SB 09	ESB-01 SB 07	ESB-02 SB 03	Residential (1)	Residential (2)	Industrial (2)
13-00-10-10-10-10-10-10-10-10-10-10-10-10-	SVOCs (µg/kg)											
1-Debins												
1-Debts   1-De											278,923	
Mediphophophophop												
2.46-Pichleuphened												.,
2-4Deptendent	2,4,5-Trichlorophenol											
24-Discriptiones												
2-Ab-Introolement											100,000	
2.4Dentenoblesce												
Schbergendender   10 U   72	2,4-Dinitrotoluene									n.a.	n.a.	
Scheinscheiden												
SMethylapstholese												
2-Medisplemed												
2-Ninephron	2-Methylphenol											
3.4 A Mentylphened												
33-Dichkodencednine												
3-Nimonnine												
## Afterno-provey plemy element   110 U   120 U   14 U   110 U   139 U   130 U   110 U   110 U   na   na   na   na   na   Archinoro-smethy plemy element   110 U   120 U   14 U   110 U   139 U   130 U   110 U   110 U   na   na   na   na   na   Archinoro-smethy plemy element   110 U   120 U   14 U   110 U   130 U   130 U   110 U   110 U   120 U   244412   2756.028   4756.02	3-Nitroaniline						130 U	110 U	110 U	n.a.	n.a.	n.a.
4-Chloros-methylphene    110 U   120 U   14 U   110 U   130 U   130 U   110 U   110 U   126 U   244412   2756.028												
4-Chlorophenyl plewyl cher         110 U         120 U         14 U         110 U         130 U         130 U         110 U         120 C         244412         27,76,28           4-Nirophenol         1,100 U         120 U         14 U         110 U         130 U         130 U         110 U         110 U         0.0         3.0         n.a.         1.a.         1.0												
4-Chicrophenyl plemyl ether    110 U   120 U   14 U   110 U   130 U   130 U   110 U   110 U   10 U   3.0    n.a.    n.a.    n.a.    4-Nirosphine    110 U   120 U   14 U   110 U   130 U   130 U   110 U   110 U   3.0    n.a.    n.a.    n.a.    4-Nirosphine    120 U   140 U   1,000 U												
4-Nirophenel   1,100 U									110 U			
Accemphthylene												
Accompthylene   22 U   24 U   2.7 U   5.7   25 U   26 U   22 U   78.017   n.a. n.a. n.a. Amfracene   14 J   91   2.7 U   71.J   700   250   22 U   6.5 J   1.001.019   21.99.072   100.000.000									1100 UJ			
Anthracene												
Benzo  pilyrene		14 J	91				250	22 U				
Benzo   Denzo   Diluoranthene   22 UI   52   2.7 U   59   110   26 U   22 U   52   422   150   2,300												
Bernofich:   Percofich:   Percofice:   Percofici:   Per			85 52		58 59				43 52			
Benzo   C 2,700 U 3,000 U 340 U R B 3,100 U 3,000 U 3,000 U 340 U R B 3,100 U 3,000 U		27 UJ										
Benzyl alcohol												
Bist2-chlorocthoxy)methane											,,	
Bist2-chloroethylether												
Bist2-ethylhexyl) phthalate												
Butyl benzyl phthalate												
Carbazole					-,							
Chrysene												
Dibergorduran	Chrysene	27 UJ	180	3.4 U	48	360	120	28 U	37	33,366		234,414
Diethyl phthalate												
Dimethyl phthalate												
Di-n-butyl phthalate   220 U   69 U   9.8 U   74 J   250 U   260 U   220 U   58 U   30,989   n.a.   n.a.											.,,,	,,
Fluoranthene   26		220 U		9.8 U	74 J	250 U			58 U	30,989		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$												
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$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$												. ,
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		22 U	81	2.7 U	19 J	3,600	4,700	22 U	100			
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Nitrobenzene			14 U				110 U		n.a.	n.a.	
Pentachlorophenol         110 U         120 U         14 U         110 U         130 U         130 U         110 U         110 U         9.1         2,979         9,998           Phenanthrene         22 U         420         2.7 U         43         5,800         3,800         22 U         89         79,042         n.a.         n.a.           Phenol         110 U         120 U         14 U         110 U         130 U         130 U         110 U         110 U         7,358         18,331,473         100,000,000           Pyrene         44         370         2.7 U         65         840         240         22 U         43         359,215         2,308,756         31,979,385										n.a.	n.a.	n.a.
Phenanthrene         22 U         420         2.7 U         43         5,800         3,800         22 U         89         79,042         n.a.         n.a.           Phenol         110 U         120 U         14 U         110 U         130 U         110 U         110 U         10,000,000           Pyrene         44         370         2.7 U         65         840         240         22 U         43         359,215         2,308,756         31,979,385												
Pyrene 44 370 2.7 U 65 840 240 22 U 43 359,215 2,308,756 31,979,385									89		n.a.	
												100,000,000
	Pyrene			2.7 U	65	840	240	22 U	43	359,215	2,308,756	31,979,385

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#### Summary of Semivolatile Organic Compund Results in Soil Samples Avery, Idaho mple ID: 07040119 07040120 07040122 07040124 07040125 07040127 07040129 07040111 ARAR Idaho EPA EPA REM Region 6 Region 6 RB-01 Industrial (2 ESB-03 SB 11 ESB-04 SB 03 ESB-04 SB 07 ESB-05 SB 15 ESB-05 SB 23 ESB-06 SB 11 ESB-07 SB 13 (Rinsate Bla identia esidential SVOCs (µg/kg) 0.22 U 1.2-Dichlorobenzene 65 U.I 61 U.I 56 U 5.4 U 144,219 65 UJ 63 U 61 UJ 68,534 1,3-Dichlorobenzene 0.22 L 1,4-Dichlorobenzene 65 UJ 550 U 63 U 56 U 5.4 U 61 UJ 54 L 0.22 U 3,197 8,067 1-Methylnaphthalene 10,000 1,000 12,000 2,200 0.012 J n.a. n.a 120 U. 2,4,5-Trichlorophenol 110 2,4,6-Trichlorophenol 180 UJ 120 UJ 0.33 U 2,4-Dichlorophenol 2,4-Dimethylphenol 130 UJ 120 UJ 110 L 1.1 U n.a n.a. n.a. 1,300 UJ 130 U 1,200 UJ 120 UJ 2.8 U 2,4-Dinitrophenol 1,300 UJ 1,100 UJ 110 UJ R 110 U n.a n.a. n.a. 1,100 U 2,4-Dinitrotoluene 130 U. 110 U n.a n.a. n.a. 120 UJ 24 UJ 0.22 U 0.033 U 2,6-Dinitrotoluene 130 UJ 1,100 U 130 L 110 U 11 U 110 L n.a 2-Chloronaphthalen n.a n.a n.a. 2-Chlorophenol 130 UJ 120 UJ 63.511 262.495 15,000 1,400 18,000 2,900 9,800 2,900 0.016 J 2-Methylnaphthalen 3,310 n.a. 2-Methylphenol 130 UJ R 130 L 110 U 11 L 120 UJ 0.22 L n.a. n.a. n.a. 130 U. 1.100 L 130 I 120 U.I 110 0.22 U 130 UJ 130 U 250 U 110 U 11 U 120 UJ 2-Nitrophenol 0.22 L n.a. n.a. n.a. 22 U 22 U 11 U 3 & 4 Methylphenol 260 UJ 220 U 240 UJ 0.44 L 130 L 3-Nitroaniline 130 UJ 1,100 U 110 L 120 UJ 110 U 0.22 U n.a n.a n.a R 1100 U 1,200 UJ 120 UJ 4,6-Dinitro-2-methylphenol 2.2 U 0.22 U R 110 4-Bromophenyl phenyl ethe 110 U n.a n.a. n.a. 130 UJ 130 UJ 130 U 110 U 11 U 11 U 120 UJ 120 UJ 0.22 U 0.22 U 4-Chloro-3-methylphenol 4-Chloroaniline 4-Chlorophenyl phenyl ether 130 U. 1.100 U 130 L 110 U 120 U. 110 U n.a. 130 U. 130 L 110 U 5.4 J 120 UJ 0.33 L 4-Nitrophenol 1,300 U 1,300 U 1,100 U 110 U 1,200 UJ 1.1 U n.a. 52,264 n.a n.a. 2,502,818 26 U.I 900 620 3.683.396 0.044 U Acenaphthylene 26 UJ 220 U 25 U 530 2.2 U 24 UJ 510 J 78,017 n.a. 21,899,672 n.a. 180 J 480 0.022 U 1,040,119 100,000,000 0.033 U Benzo[a]anthracen Benzo[a]pyrene 230 Benzo[b]fluoranthen 490 0.044 U 0.033 U 422 1,177,982 150 2,300 85 J 43 J Benzo[g,h,i]perylene n.a. n.a. Benzo[k]fluoranthen 32 UJ 280 U 31 L 28 U 10 J 9.8 J 0.033 U 4.218 1.500 23,000 1.1 U 0.015 J 77,150 100,000,000 100,000,000 Benzoic acid Benzyl alcohol 110 U n.a. 130 UJ 130 UJ 1,100 U 130 U 110 U 11 U 120 UJ 120 UJ 110 U 0.22 U Bis(2-chloroethoxy)methane Bis(2-chloroethyl)ether 211 616 Bis(2-chloroisopropyl) ether Bis(2-ethylhexyl) phthalate 190 UJ 1.700 U 190 U 170 U 16 U 180 UJ 160 L 0.22 U Butyl benzyl phthalate 130 UJ 1,100 U 130 U 110 U 11 U 120 UJ 110 L 0.33 L 511,168 240,477 240,477 190 UJ 190 L 16 U 1.7 J 0.22 U n.a. 33,366 1,400 180 J 234,414 14,762 Chrysene 290 J 120 Dibenz[a,h]anthracene 52 U. 440 L 50 L 44 L 4.3 L 49 U.I 0.033 1 Dibenzofuran 0.22 U Diethyl phthalate 130 UJ 1,100 U 130 U 110 U 120 UJ 110 U 0.06 J 49,000,000 100,000,000 130 U 250 U 270,813 Dimethyl phthalate 130 UJ 1,100 U 110 U 11 U 110 L 0.029 J 100,000,000 240 UJ Di-n-butyl phthalate 260 UJ 2,200 U Di-n-octyl phthalate 260 U. 2,200 U 250 L 220 U 22 U 240 UJ 0.22 U 0.028 U 1,828,814 Fluoranthene 26,221,983 1,197 Fluorene .300 J 1.000 2,900 600 1,400 J 1,700 0.0076 J 54.836 2.644.486 65 U. 63 L 56 L 54 Hexachlorobutadiene 65 UJ 550 U 63 U 56 U 5.4 U 61 UJ 54 L 0.33 L 38 6,236 24,554 130 U. 1,100 U 130 I 11 L 34,741 Hexachloroethar 130 U 120 UJ 130 U. 1,100 L 110 L 110 U 136,801 440 U 1,100 U 240 44 U 110 U 410 43 U 110 U 1,000 4.3 U 11 U Indeno[1,2,3-cd]pyrene 52 UJ 130 UJ 50 L 43 J 0.033 L 422 150 7.800 Isophorone 3,100 2,600 J 0.0079 J 6,000 J 1,144 124,798 Naphthalene 208,984 1,100 U 110 L 0.22 U N-Nitrosodi-n-propylamine 130 UJ 1,100 U 130 L 110 U 11 U 120 UJ 110 L n.a. n.a. n.a. N-Nitrosodiphenylamine Pentachlorophenol 65 UJ 550 U 63 U 56 U 5.4 U 61 UJ 54 L 0.22 L 99,261 390,861 0.39 L 9.1 9,998 3,300 0.0093 J Phenanthrene 3,600 J 4,400 960 4,600 J ,500 18,331,473 100,000,000

Table 4-3 (Continued)

Italics indicates that the compound was not detected.

Bold type indicates that the compound exceeds the Idaho REM.

Underline type indicates that the compound exceeds the EPA Human Health Medium-Specific Screening Level for Residential Properties Highlighted type indicates that the compound exceeds the EPA Human Health Medium-Specific Screening Level for Industial Properties (1) Idaho Risk Evaluation Manual (DEO 2004).

(2) EPA Region 6 Human Health Medium-Specific Screening Levels (EPA 2007a).

Key:

RAR =applicable or relevant and appropriate requirement

EPA =Environmental Protection Agency

ID = identification
J = estimated value
ag/kg = microgram per

μg/kg = microgram per kilogram μg/L = microgram per liter n.a. =not available R = rejected value

REM =Risk Evaluation Manual SVOC = semivolatile organic compound

					Table 4-4						
			Sun	mmary of PCB and A	nd NWTPH-Dx Res Avery Landing Site Avery, Idaho	Summary of PCB and NWTPH-Dx Results in Soil Samples Avery Landing Site Avery, Idaho	S.				
Sample ID:	07040102	07040104	07040106	07040108	07040110	07040114	07040116	07040117		ARARs	
									Idaho REM	EPA Region 6	EPA Region 6
Sample Location:	EMW-01 SB 02	EMW-02 SB 07	EMW-03 SB 11	EMW-04 SB 03	EMW-05 SB 09	EMW-06 SB 09	ESB-01 SB 07	ESB-02 SB 03	Residential (1)	Re	Industrial (2)
PCBs (µg/kg)											
Aroclor-1016	II $U$	12 U	13 U	$\Omega$ $\theta I$	13 U	13 U	II $U$	II $U$	2,334	3,933	23,606
Aroclor-1221	II U	12 U	13 U	10 U	13 U	13 U	II U	II U	2.9	222	826
Aroclor-1232	II $U$	12 U	$I3 \ U$	$\Omega$ $\theta I$	13 U	13 U	II $U$	II U	n.a.	n.a.	n.a.
Aroclor-1242	II $U$	12 U	$I3 \ U$	$\Omega$ $\theta I$	13 U	13 U	II $U$	II U	3.2	222	826
Aroclor-1248	II $U$	12 U	$\Omega$ $\mathcal{E}I$	$\Omega$ $\theta I$	13 U	13 U	II $U$	II U	137	222	826
Aroclor-1254	II U	12 U	13 U	10 U	13 U	13 U	U $II$	II U	740	222	826
Aroclor-1260	9.8 J	12 U	130	19	20 J	9.2 J	II $U$	4.4 J	147	222	826
NWTPH-Dx (mg/kg)											
Sample ID:	07040102	07040105	07040106	07040108	07040110	07040114	07040116	07040117		ARARs	
									Idaho	EPA	EPA
									REM	Region 6	Region 6
Sample Location:	EMW-01 SB 02	EMW-02 SB 05	EMW-03 SB 11	EMW-04 SB 03	EMW-05 SB 09	EMW-06 SB 09	ESB-01 SB 07	ESB-02 SB 03	Residential (1)	Residential (2)	Industrial (2)
Diesel-Range Organics	1,500	7,200	40	160	12,000	6,900	650	Not Analyzed	n.a.	n.a.	n.a.
Oil-Range Organics	12,000	5,200	I40 U	068	2,000	3,600	2,500	Not Analyzed	n.a.	n.a.	n.a.

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				Tat	Table 4-4 (continued)						
			Sun	ımary of PCB and Ax	Summary of PCB and NWTPH-Dx Results in Soil Samples Avery Landing Site Avery, Idaho	ults in Soil Sampl	s				
Sample ID:	07040119	07040120	07040122	07040124	07040125	07040127	07040129	07040111		ARARs	
								RB-01 (Rinsate	Idaho REM	EPA Region 6	EPA Region 6
Sample Location:	ESB-03 SB 11	ESB-04 SB 03	ESB-04 SB 07	ESB-05 SB 15	ESB-05 SB 23	ESB-06 SB 11	ESB-07 SB 13	Blank)	Kesidential	Residential (*)	Industrial
PCBs (µg/kg)								(µg/L)			
Aroclor-1016	13 U	$\Omega$ $\theta I$	13 U	II U	10 D	12 U	II U	0.055 UJ	2,334	3,933	23,606
Aroclor-1221	13 U	$\Omega$ $\theta I$	13 U	II U	$\Omega$ $\theta I$	12 U	II $U$	0.055 UJ	2.9	222	826
Aroclor-1232	13 U	$\Omega$ $\theta I$	13 U	II $U$	OOI	12 U	II $U$	0.055 UJ	n.a.	n.a.	n.a.
Aroclor-1242	13 U	$I0 \ U$	13 U	II $U$	10 U	12 U	II $U$	0.055 UJ	3.2	222	826
Aroclor-1248	13 U	$\Omega$ $\theta I$	13 N	II $U$	$\Omega$ $\theta I$	12 U	II $U$	0.055 UJ	137	222	826
Aroclor-1254	13 U	$\Omega$ $\theta I$	13 U	II U	$\Omega$ $\theta I$	12 U	II $U$	0.055 UJ	740	222	826
Aroclor-1260	13 U	22	13 U	II $U$	10 U	6.8 J	6.5 J	0.055 UJ	147	222	826
NWTPH-Dx (mg/kg)								(µg/L)			
Sample ID:	07040119	07040120	07040122	07040124	07040125	07040127	07040129	07040111		ARARs	
									Idaho	EPA	EPA
										Region 6	Region 6
Sample Location:	ESB-03 SB 11	ESB-04 SB 03	ESB-04 SB 07	ESB-05 SB 15	ESB-05 SB 23	ESB-06 SB 11	ESB-07 SB 13	RB-01	Residential (1)	Residential (2)	Industrial (2)
Diesel-Range Organics	17,000	3,700	13,000	3,100	Not Analyzed	7,800	6,600	48 U	n.a.	n.a.	n.a.
Oil-Range Organics	6,700	3,300	7,000	1,500	Not Analyzed	3,100	1,900	190 U	n.a.	n.a.	n.a.
Notes: Italics indica	Italics indicate Bold type indicates a detected compound.	s a detected compor									

Italies indicate Bold type indicates a detected compound.

Bold type indicates that the compound exceeds the Idaho REM.
Underline type indicates that the compound exceeds the EPA Human Health Medium-Specific Screening Level for Residential Properties Highlighted type indicates that the compound exceeds the EPA Human Health Medium-Specific Screening Level for Industial Properties (1) Idaho Risk Evaluation Manual (DEQ 2004).

(2) EPA Region 6 Medium-Specific Human Health Screening Levels (EPA 2007a).

= applicable or relavant and appropriate requirement Key: ARAR

= identification

= estimated value

= microgram per kilogram

= milligrams per kilogram = microgram per liter D = 1der

J = esti

µg/kg = mi

µg/L = p

mg/kg = ·

NWTPH-Dx =

PCBs ·

= Northwest Total Petroleum Hydrocarbon, Diesel Range Extended = polychlorinated biphenyls = not detected (at the indicated reporting limit) = not detected (estimated reporting limit)

Discreption:   EMW-01 SB 02   EMW-02 SB 04   EMW-04 SB 05   EMW-05 SB 05   EMW-03 SB 11   EMW-04 SB 05   EMW-05 SB 05   EMW-05 SB 05   EMW-05 SB 07040110   O7040113   O7040116   O704011												
Decation:   EMW-01 SB 02   EMW-02 SB 05   EMW-04 SB 03   EMW-05 SB 09   EMW-06 SB 07   ESB-01 SB 07					Summary	of TAL Metal Rest Avery Landing Avery, Idah	ults in Soil Samples g Site no					
Location:         EMW-01 SB 02         EMW-02 SB 05         EMW-04 SB 03         EMW-04 SB 05         EMW-05 SB 07         ESB-01 SB 07           ctals (mg/kg)         Incompanies         <	Sample ID:	07040102	07040105	07040106	07040108	07040110	07040113	07040116	07040117		ARARs	
table (mg/kg)  mm										Idaho REM	EPA Region 6	EPA Region 6
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1	3M W-01 SB 02	EMW-02 SB 05	EM W-03 SB 11	EM W-04 SB 03	EMW-05 SB 09	EM W-06 SB 07	ESB-01 SB 0/	ESB-02 SB 03	Kesidendal (1)	residential (2)	munsurar (3)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Aluminum	11 200	10 500	14 900	11 200	13 500	15 800	14 100	12 100	ţ	76 188	100 000
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Antimony	0.2711	0.074 1	0.1.1	13.1	1 1,200	0.12 1	0.17.1	1111	11.d.	31	450
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Arsenic (4)	17.3 J	8.6.1	7.3 J	12 J	5.7.3	7.5.1	15.7.J	1. 6.9 J	0.39	0.39	× -
m         0.4 J         0.67 J         0.47 J         0.62 J         0.57 J         0.54 J         0.46 G           m         0.47 J         0.52 J         0.45 J         0.61 J         0.67 J         0.63 J         0.64 J         0.63 J         0.64 J <th< th=""><td>Barium</td><td>63.2</td><td>113</td><td>92.8</td><td>193</td><td>76.3</td><td>96</td><td>125</td><td>174</td><td>968</td><td>16,000</td><td>100,000</td></th<>	Barium	63.2	113	92.8	193	76.3	96	125	174	968	16,000	100,000
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Beryllium	0.4 J	0.67 J	0.47 J	0.62 J	0.57 J	0.54 J	0.46	0.46 J	1.6	150	2,200
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Cadmium	0.47 J	0.52 J	0.45 J	0.81 J	0.39 J	0.43 J	0.53 J	0.78 J	1.4	39	260
um         18.8         18.4         11.9         15.1         13.2         12.8         12.1           8.8         8.4         6.2         6.5         6.9         8.5         7.1         7.1           23.7         21.5         20.8         101         25.1         20.7         20.5         7.1           11         2.6         20.00         15,100         19,700         18,000         18,900         19.           11         9.5         9.3         145         6.1         8.3         17.3         17.3           10sec         40.1         5,830 J         8,660 J         6,190 J         6,570 J         7,460 J         6,570 J         7,460 J         6,001 J           1         2,601         1,88 J         354 J         2,11         319 J         2,001 J         6,001 J         1,001 J         1,001 J         1,000 J         1,1720 J         1,61         2,20 J         1,001 J	Calcium	862 J	2,720 J	1,480 J	6,390 J	2,310 J	1,910 J	1,620 J	4,370 J	n.a.	n.a.	n.a.
8.8         8.4         6.2         6.5         6.9         8.5         7.1           23.7         21.5         20.8         101         25.1         20.7         20.5         7.1           11         2.6         20.00         15,100         19,700         18,000         16,900         18,900         19,           11         9.5         9.3         145         6.1         8.3         17.3         17.3           12cs         40.1         5,830 J         8,60 J         6,190 J         6,570 J         7,460 J         6,700 J           1 csc         40.1         2,60 J         188 J         35.4 J         2,113 J         2,00 J         7,460 J         6,570 J         7,460 J         6,00 J           y         0.0199 J         0.0114 J         0.0155 J         0.0119 J         0.0165 J         0.0165 J         0.0064 U         0.0064 U </th <td>Chromium</td> <td>18.8</td> <td>18.4</td> <td>11.9</td> <td>15.1</td> <td>13.2</td> <td>12.8</td> <td>12.1</td> <td>12.3</td> <td>2,135 (4)</td> <td>210</td> <td>200</td>	Chromium	18.8	18.4	11.9	15.1	13.2	12.8	12.1	12.3	2,135 (4)	210	200
23.7         21.5         20.8         101         25.1         20.7         20.5           24,600         20,000         15,100         19,700         18,000         16,900         18,900         19           see         41         9.5         9.3         145         6.1         8.3         17.3         17.3           nese         40.3         2.60.3         5,830.1         8.060.1         6,190.1         6,570.1         7,460.1         6,70           y         0.0199.3         0.0114.3         0.0155.3         0.0119.3         0.0105.4         0.0105.4         0.0064.U         0.0064.U <td>Cobalt</td> <td>8.8</td> <td>8.4</td> <td>6.2</td> <td>6.5</td> <td>6.9</td> <td>8.5</td> <td>7.1</td> <td>19.2</td> <td>n.a.</td> <td>n.a.</td> <td>n.a.</td>	Cobalt	8.8	8.4	6.2	6.5	6.9	8.5	7.1	19.2	n.a.	n.a.	n.a.
24,600         20,000         15,100         19,700         18,000         16,900         18,900         19,700           sigm         11         9,5         9,3         145         6,1         8,3         17,3         17,3           rese         403 J         2,60 J         5,830 J         8,060 J         6,190 J         6,570 J         7,460 J         6,270 J         7,460 J         6,700 J         7,460 J         6,001 J         6,570 J         7,460 J         6,001 J         6,001 J         7,460 J         6,001 J         6,001 J         7,460 J         6,001 J         7,460 J         6,001 J         7,001 J         0,001 J         1,000 J         2,460 J         1,720 J         3,500 J         2,000 J<	Copper	23.7	21.5	20.8	101	25.1	20.7	20.5	71.6	921	2,900	42,000
sium         3,420 J         7,760 J         5,830 J         145         6,10         8,3         17,3         6,13         6,13         7,460 J         6,100 J         6,570 J         7,460 J         6,570 J         7,00 J         8,00 J         7,00 J         8,00 J         1,00 J         7,20 J         1,00 J         7,20 J         1,00 J         7,20 J         1,00 J         2,20 J         2	Iron	24,600	20,000	15,100	19,700	18,000	16,900	18,900	19,300	5.8	54,750	100,000
sium         3,420 J         7,760 J         5,830 J         8,060 J         6,190 J         6,570 J         7,460 J         6,           ces         403 J         260 J         188 J         354 J         271 J         319 J         200 J           y         0.0124 J         0.0114 J         0.0553 J         0.0119 J         0.0105 J         0.0064 UJ         0.0064	Lead	11	9.5	9.3	145	6.1	8.3	17.3	159	950	400	800
rese         403 J         260 J         188 J         354 J         271 J         319 J         200 J           y         0.0124 J         0.0114 J         0.0553 J         0.0119 J         0.0105 J         0.0064 UJ         0.0064 UJ         0.0           m         1,600 J         2,940 J         1,980 J         3,250 J         2,460 J         1,720 J         3,500 J         2           m         0.13 J         0.28 J         0.15 J         0.11 J         0.16 J         0.11 J<	Magnesium	3,420 J	7,760 J	5,830 J	8,060 J	6,190 J	6,570 J	7,460 J	6,590 J	n.a.	n.a.	n.a.
y         0.0199 J         0.0124 J         0.0114 J         0.0553 J         0.0119 J         0.0105 J         0.0064 UJ         0.015         0.015 J         0.015 J         0.016 J         0.011 J         0.015 J         0.015 J         0.016 J         0.016 J         0.017 J         0.0	Manganese	403 J	260 J	188 J	354 J	271 J	f 618	200 J	288 J	223	3,200	47,000
um         1,600 J         2,940 J         1,380 J         3,250 J         13.1         13.4         16.1         2.500 J	Mercury	0.0199 J	0.0124 J	0.0114 J	0.0553 J	0.0119 J	0.0105 J	0.0064 UJ	0.117	0.0051	23	340
um         1,600 J         2,940 J         1,980 J         3,250 J         2,460 J         1,720 J         3,500 J         2           im         0.13 J         0.28 J         0.36 J         0.22 J         0.38 J         0.39 J         0.23 J         0           im         0.14 J         0.15 J         0.11 J         0.16 J         0.11 J         0.12 J         0	Nickel	16.5	16.3	13.3	24.9	13.1	13.4	16.1	32.3	65	1,600	23,000
mm         0.13 J         0.28 J         0.36 J         0.22 J         0.38 J         0.39 J         0.23 J         0.23 J           0.14 J         0.15 J         0.11 J         0.16 J         0.11 J         0.11 J         0.11 J         0.12 J         0.01 J	Potassium	1,600 J	2,940 J	1,980 J	3,250 J	2,460 J	1,720 J	3,500 J	2,740 J	n.a.	n.a.	n.a.
0.14 0.15 0.11 0.16 0.11 0.11 0.12 0.	Selenium	0.13 J	0.28 J	0.36 J	0.22 J	0.38 J	0.39 J	0.23 J	0.21 J	2.0	390	5,700
14 7 00 14 000 14 000 14 000 14 000	Silver	0.14 J	0.15 J	0.11 J	0.16 J	0.1 J	0.11 J	0.12 J	0.17 J	0.19	390	5,700
52.2 0 4// 80.3 0 292   113 0 106 0 70.4 0	Sodium	52.2 U	477	86.3 U	292	II3 $U$	$\Omega$ 901	70.4 U	139 U	n.a.	n.a.	n.a.
J 0.2 J 0.15 J 0.16 J 0.16 J 0.16 J 0.16 J 0.17 J	Thallium	0.11 J	0.2 J	0.15 J	0.16 J	0.16 J	0.16 J	0.17 J	0.14 J	1.6	5.5	42
dium 11.9 25.4 20.5 30.2 25.6 23 22.1	Vanadium	11.9	25.4	20.5	30.2	25.6	23	22.1	21.9	n.a.	n.a.	n.a.
Zinc 48.7 47.3 42.2 101 34.9 42.5 26 72.3	Zinc	48.7	47.3	42.2	101	34.9	42.5	26	72.3	988	23,000	100,000

				Table 4	Table 4-5 (continued)					
			<i>ত</i>	ummary of TAL M Avery Av	Summary of TAL Metal Results in Soil Samples Avery Landing Site Avery, Idaho	il Samples				
Sample ID:	07040119	07040120	07040122	07040124	07040127	07040129	07040111		ARARs	
							i d	Idaho	ΕРА	БРА
							RB-01 (Rinsate	REM	Region 6	Region 6
Sample Location:	ESB-03 SB 11	ESB-04 SB 03	ESB-04 SB 07	ESB-05 SB 15	ESB-06 SB 11	ESB-07 SB 13	Blank)	Residential (1)	Residential (2)	Industrial (2)
TAL Metals (mg/kg)	g)						(µg/L)			
Aluminum	13,100	10,200	13,000	11,100	12,700	7,760	32 U	n.a.	76,188	100,000
Antimony	0.099 J	0.49 J	0.063 J	0.059 J	0.07 J	0.066 J	0.626 U	4.8	31	450
Arsenic (4)	4.2 J	16.1 J	5.4 J	<u>I7</u> J	6.1 J	<u>5.1 J</u>	0.1 U	0.39	0.39	1.8
Barium	65.6	175	65.8	62.4	69.2	44.3	0.4 U	968	16,000	100,000
Beryllium	0.46 J	0.42 J	0.49	0.4 J	0.39 J	0.24 J	0.043 U	1.6	150	2,200
Cadmium	0.36 J	98.0	0.36 J	0.29 J	0.41 J	0.23 J	0.094 U	1.4	39	999
Calcium	1,930 J	3,110 J	1,530 J	1,740 J	1,290 J	1,580 J	116 U	n.a.	n.a.	n.a.
Chromium	10.9	12	11.2	10.8	10.7	7.7	0.569 U	2,135 (3)	210	500
Cobalt	5.5	6.3	7.1	7.9	6.9	5.6	0.028 U	n.a.	n.a.	n.a.
Copper	18.7	44.7	18.1	21.3	20.2	43	0.52 U	921	2,900	42,000
Iron	15,000	16,300	16,800	18,400	17,100	15,100	28.1 J	5.8	54,750	100,000
Lead	7.7	69.1	4.3	2.3	6.3	4.7	0.075 U	50	400	800
Magnesium	5,750 J	4,180 J	5,320 J	6,670 J	5,290 J	4,170 J	4.54 J	n.a.	n.a.	n.a.
Manganese	98.3 J	315 J	240 J	201 J	221 J	120 J	0.464 J	223	3,200	47,000
Mercury	0.00713 UJ	0.0312 J	0.00697 UJ	0.00625 UJ	0.00691~UJ	0.00609 UJ	0.018 UJ	0.0051	23	340
Nickel	12.9	17.8	12.9	15	12.1	8.7	0.11 U	59	1,600	23,000
Potassium	2,060 J	1,920 J	1,960 J	3,240 J	1,940 J	1,960 J	II $U$	n.a.	n.a.	n.a.
Selenium	0.3 J	0.31 J	0.21 J	0.19 J	0.26 J	0.16 J	0.229 UJ	2.0	390	5,700
Silver	0.078 J	0.14 J	0.081 J	0.07 J	0.086 J	0.055 J	0.085 U	0.19	390	5,700
Sodium	89.5 U	203 U	I0I	89.7 U	89.5 U	I08 U	203 J	n.a.	n.a.	n.a.
Thallium	0.13 J	0.12 J	0.16 J	0.26 J	0.15 J	0.094 J	0.044 UJ	1.6	5.5	79
Vanadium	23.5	29.9	22.3	19.5	21	28.3	0.116 J	n.a.	n.a.	n.a.
Zinc	34.4	111	29.5	18.4	33.4	20.7	1.87 J	988	23,000	100,000
Motor.	Tention in director the	to a course barren accessor	dotoptod							

Notes:

Italies indicates the compound was not detected.

Bold type indicates the compound exceeds the Idaho REM guideline.
Underline type indicates the compound exceeds the EPA Region 6 residential guideline.
Highlighted type indicates the compound exceeds the EPA Region 6 industrial guideline.
Highlighted type indicates the compound exceeds the EPA Region 6 industrial guideline.
(1) Idaho Risk Evaluation Manual (DEQ 2004).
(2) EPA Region 6 Medium-Specific Human Health Screening Levels (EPA 2007a).
(3) The Idaho REM standard for chromium is for chromium (III).
(4) The upper limit of background soil concentrations for arsenic in the nearby Coeur d'Alene and Spokane River basins is 22 mg/kg (URS Greiner 2001).

Key:

ARAR = applicable or relevant and appriopriate requirement

ID = identification
J = estimated value

μg/L = microgram per liter

mg/kg = milligrams per kilogram

n = not available

REM = Risk Evaluation Manual

TAL = target analyte list
U = not detected (at the indicated reporting limit)

UJ = not detected (estimated reporting limit)

					Table 4-6							
			Summary of N	/olatile Organic Co	Summary of Volatile Organic Compund Results in Groundwater and Domestic Well Samples Avery Landing Site Avery, Idaho	Groundwater and g Site ho	Domestic Well Sar	səldu				
Sample Number:	07040135	07040136	07040137	07040138	07040139	07040140	07040141	07040142	07040143		ARARs	
										Groundwater Standard	Idaho	EPA Region 6
Sample Location:	EMW-01	EMW-02	EMW-03	EMW-04	EMW-05	EMW-06	HC-1R	MW-5	DW-01	(MCL) (1)	REM (2)	Tap Water (3)
VOCs (µg/L)												
1,1,1-Trichloroethane	U 0.1	U 0.1	1.0 U	1.0 U	1.0 U	1.0 U	U 0.1	1.0 U	U 0.1	200	200	836
1,1,2,2-Tetrachloroethane	I.0 U	1.0 U	I.0 U	I.0 U	I.0 U	I.0 U	I.0 U	1.0 U	U 0.1	n.a.	0.3	0.3
1,1,2-Trichloroethane	I.0~U	$\Omega$ 0'I	U 0.1	1.0 U	1.0 U	I.0 U	I.0 U	I.0~U	I.0~U	5.0	5.0	1.2
1,1-Dichloroethane	I.0 U	I.0~U	I.0 U	I.0 U	1.0 U	I.0 U	I.0 U	1.0 U	I.0 U	n.a.	1,040	1,217
1,1-Dichloroethene	U 0.1	0 0 T	1.0 U	7 O.1	1.0 U	1.0 U	1.0 U	1.0 U	U 0.1	7.0	7.0	340
1,2-Dichlorosthane	1.0 0.1	0.07	0.07	0.07	1.0 0	1.0 0.1	1.0 0	1.0 0	0 07	2.0	3.0	0.7
trans-1 2-Dichlomethene	10 11	11 01	70 07	1.001	1.0.1	1.0.1	1.0.07	10 01	10 11	001	90	110
1 2-Dichloropponane	11 01	0 67	11 0 1	11 0 1	11 0 1	1.0 1.	10 0.1	10 01	11 0 1	20	5.0	01
cis-1,3-Dichloropropene	U 0.1	U 0.1	1.0 U	1.0 U	1.0 U	I.0 U	I.0 U	7 0 T	U 0.1	n.a.	9.0	0.7
trans-1,3-Dichloropropene	U 0.1	U 0.1	U 0.1	1.0 U	1.0 U	I.0 U	1.0 U	U 0 T	U 0.1	n.a.	n.a.	0.7
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	n.a.	6,260	7,100
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	n.a.	n.a.	n.a.
4-Methyl-2-pentanone	5.0 U	$\Omega$ 0.8	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	n.a.	n.a.	n.a.
Acetone	5.0 U	5.0 U	2.8 J	3.2 J	5.0 U	5.0 U	1.6 J	5.0 U	5.0 U	n.a.	9,390	5,475
Benzene	1.0 UJ	I.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0	5.0	1.2
Bromodichloromethane	I.0 U	$I.0 \ U$	I.0 U	I.0 U	I.0 U	I.0~U	I.0 U	1.0 U	I.0 U	n.a.	6.0	1.1
Bromoform	1.0 U	1.0 U	1.0 U	I.0 U	I.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 (4)	7.1	8.5
Bromomethane	I.0 UJ	IO OI	I.0 UJ	I.0 UJ	I.0 UJ	I.0 UJ	1.0 UJ	I.0 UJ	I.0 U	n.a.	15	8.7
Carbon disulfide	I.0 U	I.0~U	I.0 U	I.0 U	1.0 U	I.0 U	I.0 U	1.0 U	I.0 U	n.a.	1,040	1,043
Carbon tetrachloride	I.0 U	I.0~U	1.0 U	I.0 U	I.0 U	I.0 U	I.0 U	1.0 U	I.0 U	5.0	5.0	0.5
Chlorobenzene	I.0 U	I.0 U	1.0 U	I.0 U	1.4	3.6	I.0 U	1.0 U	1.0 U	100 (5)	100	91
Chloroethane	I.0 U	I.0 U	1.0 U	I.0 U	I.0 U	I.0 U	I.0 U	1.0 U	I.0 U	n.a.	19	n.a.
Chloroform	I.0 U	I.0 U	1.0 U	1.0 U	1.0 U	I.0 U	1.0 U	1.0 U	I.0 U	$100^{(4)}$	1.8	0.2
Chloromethane	I.0 U	I.0 U	I.0 U	I.0 U	1.0 U	I.0 U	I.0 U	1.0 U	I.0 U	n.a.	4.3	2.1
Dibromochloromethane	I.0~U	I.0~U	1.0 U	I.0 U	I.0 U	I.0 U	I.0 U	1.0 U	I.0~U	n.a.	n.a.	n.a.
Dichlorodifluoromethane	I.0 U	1.0 U	1.0 U	1.0 U	1.0 U	I.0 U	1.0 U	1.0 U	1.0 U	n.a.	2,090	395
Ethylbenzene	1.0 U	I.0~U	1.0 U	I.0 U	1.0 U	1.0 U	1.0 U	1.0 U	I.0 U	700	700	1,340
Methylene chloride	I.0 U	1.0 U	1.0 U	1.0 U	1.0 U	I.0 U	1.0 U	1.0 U	1.0 U	n.a.	7.5	8.9
Styrene	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100	100	1,641
Tetrachloroethene	U 0.7	U 0.7	J. 0.7	0.07	1.0 U	1.0 U	1.0 U	7.0 n	0 O.I	5.0	5.0	0.1
Toluene	I.0~U	I.0~U	1.0 U	I.0 U	I.0 U	I.0~U	I.0 U	1.0 U	I.0 U	1,000	1,000	2,281
Trichloroethene	I.0~U	I.0~U	I.0 U	I.0 U	1.0 U	I.0~U	I.0 U	1.0 U	I.0 U	5.0	5.0	0.2
Trichlorofluoromethane	I.0 U	I.0~U	I.0 U	I.0 U	I.0 U	I.0 U	I.0 U	I.0 U	I.0 U	n.a.	3,130	1,288
Vinyl chloride	I.0~U	I.0~U	I.0 U	I.0 U	1.0 U	I.0~U	I.0 U	1.0 U	I.0 U	2.0	2.0	0.0
m,p-Xylene	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	10,000 (6)	10,000 (6)	200 (6)
o-Xylene	I.0 U	I.0 U	I.0 U	I.0 U	I.0 U	I.0 U	I.0 U	1.0 U	I.0 U	10,000 (6)	10,000 (6)	200 (6)

Tables indicates the compound was not detected.

Bold type indicates that was not detected the Idaho REM guideline.

Bold type indicates that the compound exceeded the Idaho REM guideline.

Consideration by the indicates that the compound exceeded the groundwarer standard (MCL).

Highlighted type indicates that the compound exceeded the groundwarer standard (MCL).

Highlighted type indicates that the compound exceeded the groundwarer standard (MCL).

Highlighted type indicates that the compound exceeded the groundwarer standard was seen the groundwarer standards include the National Primary and Secondary Drinking Water Regulations, which include the federal MCLs (EPA 2003), and the state Primary and Secondary Constituent Standards are the same.

(1) Groundwarer (IDAPA 2006). Unless softwares included the state and federal standards are the same.

(3) The Potnobrazora standards are from the state regulations, only.

(5) The Potnobrazora standards are from the federal regulations, only.

(6) The chotopran and the forein regulations, only.

KGy:

ARAR applicable or relevant and appropriate requirement

a i elentification

J estimated value

µg/L = microgam per liter

REM = Risk Evaluation Manual

U = not detected (estimated reporting limit)

UJ = not detected (estimated reporting limit)

#### Summary of Semivolatile Organic Compund Results in Groundwater and Domestic Well Samples Avery Landing Site Avery, Idaho Sample ID 07040135 07040136 07040137 07040138 07040139 07040140 07040141 07040142 07040143 ARARs Groundwate EPA Region 6 (MCL) (1 DEM (2 SVOCs (µg/L) 1,2,4-Trichlorobenzene 1.9 L 0.2 L 0.037 1 0.048 1 0.2.1 n.a. 0.2 U 0.2 U .0081 J 1,3-Dichlorobenzene 0.2 U 0.2 L 0.21 L 1.9 L 0.2 L 0.21 U 0.2 L n.a. 9.4 14 0.2 U 20 0.21 U 0.031 U 0.051 J 1.9 U 210 0.2 U 0.03 U 0.21 U 0.2 U 0.03 U 1,4-Dichlorobenzene n.a. 1-Methylnaphthalene n.a. n.a. n.a. 0.2 L 0.31 U 0.31 U 0.3 U n.a. n.a. 2,4-Dichlorophenol 0.2 U R R 0.21 L R R R 0.21 L 0.2 L n.a. 31 110 1.0 U 1.0 L 2,4-Dinitrophenol 2.5 U R 2.6 U R R 2.6 L 2.5 U 0.2 U n.a. n.a. n.a. 1.9 L n.a. 2-Chloronaphthalene 0.03 U 0.029 L 0.03 L 0.03 L 0.28 L 0.03 U 0.031 L 0.03 U n.a. n.a. n.a. 0.2 U 0.1 U 0.2 U 0.0095 J 0.21 U R 270 0.21 U 2-Chlorophenol n.a. 52 42 30 2-Methylnaphthalen n.a. n.a. 2-Methylphenol 0.2 U R 0.2 R 0.21 U R R R 0.21 L 0.2 U n.a. n.a. n.a. Nitroaniline n.a. n.a. n.a. 2-Nitrophenol 0.2 U 0.21 1 0.21 U 0.2 L n.a. n.a. n.a. 3 & 4 Methylphenol 0.4 U R 0.41 L R R 0.41 U 0.4 U n.a. n.a. 3,3'-Dichlorobenzidine 1.0 U 0.98 L 1.0 L 1.0 L 1.0 L 9.5 L 1.0 U 1.0 L 1.0 L n.a. n.a. n.a. 0.21 1 1.9 L 0.2 U 0.21 1 0.2 L 4,6-Dinitro-2-methylphenol 2 U 0.2 U R 0.2 U 2.1 U 0.21 U R 19 J R 2.1 U 0.21 U 2.0 U n.a. n.a. n.a. 4-Bromophenyl phenyl ether 0.2 U 0.2 L 1.9 U 0.2 U 0.2 U n.a. n.a. n.a 4-Chloro-3-methylphenol 0.21 0.21 U 0.2 U n.a. 0.2 L 4-Chloroaniline 0.2 U 0.21 0 1.9 L 0.21 U n.a. 146 4-Chlorophenyl phenyl ether 1.9 U n.a. 4-Nitroaniline n.a. n.a. 4-Nitrophenol R 1.0 U R R R 1.0 U 1.0 U n.a. n.a. 365 0.6 0.04 U 2.4 0.11 0.17 2.9 9.3 0.052 U 0.05 U Acenaphthene n.a. 0.039 0.38 0.041 U 0.04 L Acenaphthylene 0.04 L 0.041 0 0.041 0.04 0 n.a. 626 n.a 0.021 Anthracene 0.02 L 0.012 J 0.019 0.021 0.0026 3,130 1.825 n.a. 0.03 L 0.03 0.03 0.03 0.031 0.02 Benzo[a]anthracene 0.03 n.a. Benzo[a]pyrene 0.02 U 0.20 0.02 L 0.021 0.02 L 0.85 0.02 L 0.021 U 0.02 L 0.20 0.20 0.0029 0.04 L 0.04 L 0.04 0.15 Benzo[b]fluoranthene n.a. Benzo[g,h,i]perylene 0.03 U 0.11 0.03 U 0.037 0.03 L 0.51 0.03 U 0.031 L 0.03 L n.a. 313 0.029 Benzo[k]fluoranthene 0.03 L 0.03 U 0.031 U 1.0 U 0.2 U 0.2 U 0.21 U 1.0 U 0.21 U 0.21 U 41,700 146,000 Benzoic acid 1.0 L n.a. 0.2 U 0.2 U Benzyl alcohol R R R R R n.a. n.a. Bis(2-chloroethoxy)methane n.a. n.a. n.a. Bis(2-chloroethyl)ether 0.2 U 0.2 U 0.028 J 0.21 U 0.2 L 1.9 L 0.2 U 0.21 L 0.2 U n.a. 0.05 0.060 0.2 U 1.9 U 14 U Bis(2-chloroisopropyl) ether n.a. 6.0 n.a. 6.0 n.a. 4.8 Bis(2-ethylhexyl) phthalate 16 120 85 390 210 Butyl benzyl phthalate 0.3 0.31 0.022 0.3 t 0.13 J 2.8 U 0.3 0.31 U 0.3 U 0.2 U n.a. 2,090 7,300 Carbazole n.a. n.a. n.a. Chrysene 0.02 U 0.51 0.02 1 0.067 0.02 L 0.02 L 0.021 U n.a. Dibenz[a,h]anthracen .031 0.03 L 0.03 L n.a. Dibenzofuran 0.2 U 0.2 U 0.2 U 0.02 J 0.2 L 1.9 L 0.2 U 0.21 L 0.2 U n.a. 42 12 Diethyl phthalate 0.014 J 1.9 L 0.018 J 8.340 29,000 0.2 U 0.2 L 0.21 0.2 L 1.9 L 0.2 L 0.21 U 104,000 370,000 Dimethyl phthalate 0.2 U n.a. Di-n-butyl phthalat 191 0.2 U 0.0097 J 0.2 U 0.26 0.21 0.2 U 0.037 0.08 J 0.025 U 0.21 L 0.026 L 0.2 U 0.025 U 417 Di-n-octyl phthalat n.a. n.a. 1,460 0.2 U 0.025 U Fluoranthene n.a. 0.4 0.2 U 0.031 U 0.03 U 0.2 U 417 1.0 0.0068 J 0.14 n.a. 1.0 243 0.042 1.9 L 0.2 L Hexachlorobenzene Hexachlorobutadien 0.3 U 0.29 U 0.3 U 0.31 U 0.3 L 2.8 U 0.3 U 0.31 L 0.3 U 1.0 0.86 1.0 U Hexachlorocyclopentadien Hexachloroethane 0.29 0.31 0 0.3 L 0.3 L n.a. 4.0 4.8 0.03 U 0.2 U 0.029 L 0.2 L 0.03 U 0.031 U 0.03 U 0.28 U 0.03 U 0.2 U 0.031 U 0.03 U 0.2 U 0.077 0.029 Indeno[1,2,3-cd]pyrene n.a. 0.2 L 0.21 Isophorone n.a. n.a. n.a. Naphthalene 7.1 0.2 0.01 J 5.0 0.2 U 0.21 U 63 0.2 U 0.21 U 0.2 U n.a. 209 6.2 Vitrobenzene n.a. n.a. n.a. N-Nitrosodi-n-propylamine 0.2 U 0.2 U 0.2 U 0.21 U 0.2 L 1.9 U 0.2 U 0.21 L 0.2 U n.a. n.a. n.a. 0.2 U 0.35 U 0.2 U 0.21 U 0.2 L 12 0.21 L 0.2 U 0.35 U n.a. 1.0 N-Nitrosodiphenylamine 0.36 L 0.36 L 1.0 0.56 Pentachlorophenol 0.0046.1 4.0 0.021 J 0.078 0.026 J 0.041 1 0.04 L 313 n.a. 10,950 0.3 U 0.31 L R 0.31 U 0.3 U 3,130 Phenol R 0.03 U n.a. Pyrene 0.015 J 0.03 U 0.041 8.6 0.03 L 183

Table 4-7

Italics indicates that the compound was not detected.

Bold type indicates that the compound exceeds the Idaho REM.

Underline type indicates that the compound exceeds the groundwater standard (MCL).
Highlighted type indicates that the compound exceeds the EPA Region 6 tap water guideline.

(1) Groundwater Standards include the National Primary and Secondary Drinking Water Regulations, which include the federal MCLs (EPA 2003), and the state Primary and Secondary Constituent Standards for Groundwater (IDAPA 2006). Unless otherwise indicated, the state and federal standards are the same.
(2) Idaho Risk Evaluation Manual (DEQ 2004).

(3) EPA Region 6 Medium-Specific Human Health Screening Levels (EPA 2007a).

#### Key:

ARAR =applicable or relevant and appropriate requirement

EPA =Environmental Protection Agency
ID = identification

J = estimated value

µg/L = microgram per liter

R = rejected value

REM = Risk Evaluation Memo

SVOC = semivolatile organic compound

U = not detected (at the indicated reporting limit)

UJ = not detected (estimated reporting limit)

					Tai	Table 4-8						
			Summ	ary of PCB and N	WTPH-Dx Result Avery L Aver	Summary of PCB and NWTPH-Dx Results in Groundwater and Domestic Well Samples Avery, Landing Site Avery, Idaho	and Domestic Wel	l Samples				
Sample ID:	07040135	07040136	07040137	07040138	07040139	07040140	07040141	07040142	07040143		ARARs	
										Groundwater		EPA
										Standard	Idaho	Region 6
Sample Location:	EMW-01	EMW-02	EMW-03	EMW-04	EMW-05	EMW-06	HC-1R	MW-5	DW-01	(MCL) (1)	$REM^{(2)}$	Tap Water (3)
PCBs (μg/L)												
Aroclor-1016	0.058 U	0.051 UJ	0.051 U	0.05 UJ	0.051 UJ	0.053 U	0.051 UJ	0.05 U	0.05 U	0.5	0.73	96'0
Aroclor-1221	0.058 U	0.051 UJ	0.051 U	0.05 UJ	0.051 UJ	0.053 U	0.051 UJ	0.05 U	0.05 U	0.5	0.0279	0.0336
Aroclor-1232	0.058 U	0.051 UJ	0.051 U	0.05 UJ	0.051 UJ	0.053 U	0.051 UJ	0.05 U	0.05 U	0.5	n.a.	n.a.
Aroclor-1242	0.058 U	0.051 UJ	0.051 U	0.05 UJ	0.051 UJ	0.053 U	U 150.0	0.05 U	0.05 U	0.5	0.0279	0.0336
Aroclor-1248	0.058 U	0.051 UJ	0.051 U	0.05 UJ	0.051 UJ	0.053 U	U 150.0	0.05 U	0.05 U	0.5	0.0279	0.0336
Aroclor-1254	0.058 U	0.051 UJ	0.051 U	0.05 UJ	0.051 UJ	0.053 U	0.051 UJ	0.05 U	0.05 U	0.5	0.2090	0.0336
Aroclor-1260	0.058 U	0.051 UJ	0.051 U	0.05 UJ	0.051 UJ	0.028 J	0.051 UJ	0.05 U	0.05 U	0.5	0.0279	0.0336
NWTPH-Dx (µg/L)												
Sample ID:	07040135	07040136	07040137	07040138	07040139	07040140	07040141	07040142	07040143		ARARs	
												EPA
											Idaho	Region 6
Sample Location:	EMW-01	EMW-02	EMW-03	EMW-04	EMW-05	EMW-06	HC-1R	MW-5	DW-01	MCL (1)	REM (2)	Tap Water (3)
Diesel-Range Organics	83	5,500	780	3,900	2,000	110,000	1,300	50 U	62	n.a.	n.a.	n.a.
Oil-Range Organics	D 012	3,800	1,000	4,100	780	45,000	720	260	$\Omega$ 061	n.a.	n.a.	n.a.

Italics indicates that the compound was not detected.

Bold type indicates that the compound exceeds the Idaho REM.

Underline type indicates that the compound exceeds the groundwater standard (MCL).

Highlighted type indicates that the compound exceeds the EPA Region 6 tap water guideline.

(1) Groundwater Standards include the National Primary and Secondary Drinking Water Regulations, which include the federal MCLs (EPA 2003), and the state Primary and Secondary Constituent Standards for Groundwater (1906). Unless otherwise indicated, the state and federal standards are the same.

(2) Idaho Risk Evaluation Manual (DEQ 2004).

(3) EPA Region 6 Medium-Specific Human Health Screening Levels (EPA 2007a).

— estimated value

μg/L = microgram per liter

n.a. = not available

NWTPH-Dx = Polychlorinated biphenyls

PCBs = polychlorinated biphenyls

REM = Risk Evaluation Manual

U = not detected (at the in Fig. 1)

						Table 4-9						
				Summary of	TAL Metal Results in Avery Av	ılts in Groundwater and D Avery Landing Site Avery, Idaho	Summary of TAL Metal Results in Groundwater and Domestic Well Samples Avery, Idaho Avery, Idaho					
Sample ID:	07040135	07040136	07040137	07040138	07040139	07040140	07040141	07040142	07040143		ARARs	
										Groundwater	Idaho	EPA Region 6
Sample Location:	EMW-01	EMW-02	EMW-03	EMW-04	EMW-05	EMW-06	HC-1R	MW-5	DW-01	(MCL) (1)	REM (2)	Tap Water (3)
TAL Metals (µg/L)												
Aluminum	32 U	2,050	74.9	121	634	32,200	32 U	7.67	32 U	200 (4)	n.a.	36,500
Antimony	0.218 UJ	0.537 U	0.219 UJ	0.452 U	0.0949 UJ	I.87 U	0.465 U	0.222 UJ	0.0574 U	0.9	6.0	15
Arsenic	0.303 J	88.6	30.7	13.7	51.4	58.6	46.6	0.655 J	1.06	50 / 10 (5)	10	0.045
Barium	12	61.1	84.4	113	72.1	305	109	9.3	21.1 J	2,000	2,000	7,300
Beryllium	0.043 U	0.106 J	0.043 U	0.043 U	0.043 U	1.84 J	0.043 U	0.043 U	0.043 U	4.0	4.0	73
Cadmium	0.094 U	0.142 J	0.094 U	0.094 U	0.094 U	1.07	0.094 U	0.094 U	0.094~U	5.0	5.0	18
Calcium	21,800	56,600	59,400	82,300	44,300	67,300	81,700	22,700	46,600	n.a.	n.a.	n.a.
Chromium	0.359 U	3.91	0.502 U	0.465 U	1.46	35.6	0.537 U	0.608~U	0.763 U	100	100	55,000 (6)
Cobalt	1.89	6.15	12.9	3.39	1.24	22.9	2.63	0.0826 J	0.0637 J	n.a.	n.a.	n.a.
Copper	0.52 U	8.43	0.52 U	0.689 J	2.35	132	0.52 U	0.746 J	1.41 J	1,300	1,300	1,400
Iron	82	26,100	30,800	31,300	23,000	80,500	20,600	183	141 J	300	3,130	25,550
Lead	0.075 U	2.17	0.105 J	0.615 J	0.583 J	39.8	0.075 U	0.178 J	0.075 UJ	15	15	15
Magnesium	6,370 J	8,280 J	7,660 J	14,000 J	7,760 J	26,400 J	9,900 J	6,460 J	13,200 J	n.a.	n.a.	n.a.
Manganese	120	3,300	5,510	3,430	2,980	3,920	5,630	0.946 J	2.87 J	50	250	1,700
Mercury	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	0.018 UJ	2.0	2.0	11
Nickel	1.31	6.05	5.8	3.51	2.53	37.8	3.55	0.902 J	1.5	n.a.	209	730
Potassium	1,040	2,950	3,150	4,160	2,070	8,130	2,680	808	1,510	n.a.	n.a.	n.a.
Selenium	0.11 UJ	0.289 UJ	0.123 UJ	0.11 UJ	0.268 UJ	1.18	0.272 UJ	0.115 UJ	0.11 UJ	50	50	180
Silver	0.085 U	0.085 U	0.085 U	0.085 U	0.085 U	0.532 J	0.085 U	0.085 U	0.085 U	100	52.1	180
Sodium	2,000 J	3,330 J	2,150 J	4,360 J	2,670 J	5,350 J	2,710 J	1,950 J	2,860	n.a.	n.a.	n.a.
Thallium	$0.044 \ UJ$	0.044 UJ	0.044 UJ	0.044 UJ	0.044 UJ	0.356 J	0.044 UJ	0.044 UJ	$0.044 \ U$	2.0	2.0	2.6
Vanadium	0.135 J	5.41	0.871 J	0.668 J	1.71 J	53.2	1.24 J	0.268 J	0.19 U	n.a.	n.a.	n.a.
Zinc	3.43 J	7.68 J	4.48 J	8.01 J	7.94 J	68.3 J	5.03 J	5.04 J	6.44 UJ	5,000	3130	11,000

Italics indicates that the compound was not detected.

Bold type indicates that the compound exceeds the Idaho REM.

Underline type indicates that the compound exceeds the groundwater standard (MCL).

Highlighted type indicates that the compound exceeds the EPA Region 6 tap water guideline.

(1) Groundwater Standards include the National Primary and Seconday Drinking Water Regulations, which include the federal MCLs (EPA 2003), and the state Primary and Secondary Constituent Standards for Groundwater (IDAPA 2006).

Unless otherwise indicated, the standards are the same.

(2) Idaho Risk Evaluation Manual (DEQ 2004).

(3) EPA Region of Medium-Specific Human Health Screening Levels (EPA 2007a).

(4) For aluminum, the federal regulation specifies a range of 50 to 200 µg/L, and the state of Idaho has set the standard at 200 µg/L.

(5) For arsenic, the state standard is 50 µg/L, and the federal standard is 10 µg/L.

(6) Region of Tap Water value is for chromium (III)

Key:

ARARs = applicable or relevant and appropriate requirements

ID = identification

J = estimated value

μg/L = microgram per liter

n.a. = not available

TAL = larget analyte list

U = not detected (at the indicated reporting limit)

UJ = not detected (estimated reporting limit)

### Summary of Volatile Organic Compund Results in Surface Water Samples Avery Landing Site Avery, Idaho

Sample Number:	7040132	7040133	7040134	7040130	AR	ARs
_					Idaho	Federal
Sample Location:	SW-01	SW-02	SW-03	TB-01	REM (1)	AWQC (2)
VOCs (µg/L)						
1,1,1-Trichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	11
1,1,2,2-Tetrachloroethane	1.0 U	1.0 U	1.0 U	1.0 U	0.2	2,400
1,1,2-Trichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	0.6	9,400
1,1-Dichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
1,1-Dichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
1,2-Dichloroethane	1.0 U	1.0 U	1.0 U	1.0 U	0.4	20,000
cis-1,2-Dichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	11,600
trans-1,2-Dichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	11,600
1,2-Dichloropropane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
cis-1,3-Dichloropropene	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
trans-1,3-Dichloropropene	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
2-Butanone	5.0 U	5.0 U	5.0 U	5.0 U	n.a.	n.a.
2-Hexanone	5.0 U	5.0 U	5.0 U	5.0 U	n.a.	n.a.
4-Methyl-2-pentanone	5.0 U	5.0 U	5.0 U	5.0 U	n.a.	n.a.
Acetone	5.0 U	5.0 U	5.0 U	5.0 U	n.a.	n.a.
Benzene	1.0 U	1.0 U	1.0 U	1.0 U	1.2	130
Bromodichloromethane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
Bromoform	1.0 U	1.0 U	1.0 U	1.0 U	4.3	n.a.
Bromomethane	1.0 U	1.0 U	1.0 U	1.0 UJ	n.a.	n.a.
Carbon disulfide	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
Carbon tetrachloride	1.0 U	1.0 U	1.0 U	1.0 U	0.3	9.8
Chlorobenzene	1.0 U	1.0 U	1.0 U	1.0 U	680	50
Chloroethane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
Chloroform	1.0 U	1.0 U	1.0 U	1.0 U	5.7	1,240
Chloromethane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
Dibromochloromethane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
Dichlorodifluoromethane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	11,000
Ethylbenzene	1.0 U	1.0 U	1.0 U	1.0 U	3,100	7.3
Methylene chloride	1.0 U	1.0 U	1.0 U	1.0 U	4.7	2,200
Styrene	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
Tetrachloroethene	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	840
Toluene	1.0 U	1.0 U	1.0 U	1.0 U	6,800	9.8
Trichloroethene	1.0 U	1.0 U	1.0 U	1.0 U	2.7	21,900
Trichlorofluoromethane	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	n.a.
Vinyl chloride	1.0 U	1.0 U	1.0 U	1.0 U	2.0	11,600
m,p-Xylene	2.0 U	2.0 U	2.0 U	2.0 U	n.a.	13 (3)
o-Xylene	1.0 U	1.0 U	1.0 U	1.0 U	n.a.	13 (3)

Note:

Italics indicates the compound was not detected.

Bold type indicates the compound exceeded the Idaho REM guideline.

Underline type indicates the compound exceeded a federal guideline or standard.

- (1) Idaho Risk Evaluation Manual (DEQ 2004).
- (2) Ambient Water Quality Criteria (Buchman 1999).
- (3) Xylene standards are for total xylene.

### Key:

ARAR = applicable or relevant and appropriate requirement

AWQC = Ambient Water Quality Criteria

 $\begin{array}{ll} ID & = identification \\ J & = estimated \ value \\ \mu g/L & = microgram \ per \ liter \end{array}$ 

Table 4-11
Summary of Semivolatile Organic Compund Results in Surface Water Samples
Avery Landing Site
Avery, Idaho

Sample ID:	07040132	07040133	07040134	AR	ARs
				Idaho	Federal
Sample Location:	SW-01	SW-02	SW-03	REM (1)	AWQC (2)
SVOCs (μg/L)					
1,2,4-Trichlorobenzene	0.19 U	0.19 U	0.19 U	960	50
1,2-Dichlorobenzene	0.19 U	0.19 U	0.19 U	2,700	n.a.
1,3-Dichlorobenzene	0.19 U	0.19 U	0.19 U	400	n.a.
1,4-Dichlorobenzene	0.19 U	0.19 U	0.19 U	400	763
1-Methylnaphthalene	0.029 U	0.041	0.34	n.a.	n.a.
2,4,5-Trichlorophenol	0.19 U	0.19 U	0.19 U	n.a.	n.a.
2,4,6-Trichlorophenol	0.29 U	0.29 U	0.29 U	n.a.	n.a.
2,4-Dichlorophenol	0.19 U	0.19 U	0.19 U	n.a.	365
2,4-Dimethylphenol	0.96 U	0.96 U	0.95 U	n.a.	n.a.
2,4-Dinitrophenol	2.4 U	2.4 U	2.4 U	n.a.	n.a.
2,4-Dinitrotoluene	0.19 U	0.19 U	0.19 U	n.a.	n.a.
2,6-Dinitrotoluene	0.19 U	0.19 U	0.19 U	n.a.	n.a.
2-Chloronaphthalene	0.029 U	0.029 U	0.029 U	n.a.	n.a.
2-Chlorophenol	0.19 U	0.19 U	0.19 U	n.a.	4,380
2-Methylnaphthalene	0.096 U	0.014 J	0.11	n.a.	n.a.
2-Methylphenol	0.19 U	0.19 U	0.19 U	n.a.	n.a.
2-Nitroaniline	0.19 U	0.19 U	0.19 U	n.a.	n.a.
2-Nitrophenol	0.19 U	0.19 U	0.19 U	n.a.	n.a.
3 & 4 Methylphenol	0.38 U	0.38 U	0.38 U	n.a.	n.a.
3,3'-Dichlorobenzidine	0.96 U	0.96 U	0.95 U	n.a.	n.a.
3-Nitroaniline	0.19 U	0.19 U	0.19 U	n.a.	n.a.
4,6-Dinitro-2-methylphenol	1.9 U	1.9 U	1.9 U	n.a.	n.a.
4-Bromophenyl phenyl ether	0.19 U	0.19 U	0.19 U	n.a.	n.a.
4-Chloro-3-methylphenol	0.19 U	0.19 U	0.19 U	n.a.	n.a.
4-Chloroaniline	0.19 U	0.19 U	0.19 U	n.a.	50
4-Chlorophenyl phenyl ether	0.19 U	0.19 U	0.19 U	n.a.	n.a.
4-Nitroaniline	0.29 U	0.29 U	0.29 U	n.a.	n.a.
4-Nitrophenol	0.96 U	0.96 U	0.95 U	n.a.	n.a.
Acenaphthene	0.048 U	0.025 J	0.084	n.a.	520
Acenaphthylene	0.038 U	0.038 U	0.038 U	n.a.	n.a.
Anthracene	0.019 U	0.0088 J	0.015 J	9,600	0.73
Benzo[a]anthracene	0.029 U	0.029 U	0.011 J	0.0028	n.a.
Benzo[a]pyrene	0.019 U	0.019 U	0.027	0.0028	0.014
Benzo[b]fluoranthene	0.038 U	0.038 U	0.023 J	0.0028	n.a.
Benzo[g,h,i]perylene	0.029 U	0.029 U	0.029 U	n.a.	n.a.
Benzo[k]fluoranthene	0.029 U	0.029 U	0.029 U	0.0028	n.a.
Benzoic acid	0.96 U	0.96 U	0.95 U	n.a.	42
Benzyl alcohol	0.19 U	0.19 U	0.013 J	n.a.	n.a.

Key is at end of table.

### Table 4-11 (continued)

## Summary of Semivolatile Organic Compund Results in Surface Water Samples Avery Landing Site Avery, Idaho

Sample ID:	07040132	07040133	07040134	AR	ARs
				Idaho	Federal
Sample Location:	SW-01	SW-02	SW-03	REM (1)	AWQC (2)
SVOCs (µg/L)					
Bis(2-chloroethoxy)methane	0.19 U	0.19 U	0.19 U	n.a.	n.a.
Bis(2-chloroethyl)ether	0.19 U	0.19 U	0.19 U	0.031	n.a.
Bis(2-chloroisopropyl) ether	0.19 U	0.19 U	0.19 U	n.a.	n.a.
Bis(2-ethylhexyl) phthalate	1.4 U	1.4 U	1.4 U	1.8	360
Butyl benzyl phthalate	0.29 U	0.29 U	0.29 U	n.a.	3.0
Carbazole	0.19 U	0.19 U	0.19 U	n.a.	n.a.
Chrysene	0.019 U	0.019 U	0.016 J	0.0028	0.027
Dibenz[a,h]anthracene	0.029 U	0.029 U	0.029 U	0.0028	n.a.
Dibenzofuran	0.19 U	0.19 U	0.19 U	n.a.	0.0037
Diethyl phthalate	0.19 U	0.011 J	0.19 U	23,000	3.0
Dimethyl phthalate	0.19 U	0.19 U	0.19 U	313,000	3.0
Di-n-butyl phthalate	0.19 U	0.19 U	0.19 U	2,700	3.0
Di-n-octyl phthalate	0.19 U	0.19 U	0.073 J	n.a.	3.0
Fluoranthene	0.024 U	0.0095 J	0.013 J	300	3,980
Fluorene	0.029 U	0.047	0.2	1,300	3.9
Hexachlorobenzene	0.19 U	0.19 U	0.19 U	0.00075	3.68
Hexachlorobutadiene	0.29 U	0.29 U	0.29 U	0.44	9.3
Hexachlorocyclopentadiene	0.96 U	0.96 U	0.95 U	240	5.2
Hexachloroethane	0.29 U	0.29 U	0.29 U	1.9	540
Indeno[1,2,3-cd]pyrene	0.029 U	0.029 U	0.029 U	0.0028	n.a.
Isophorone	0.19 U	0.19 U	0.19 U	n.a.	n.a.
Naphthalene	0.19 U	0.19 U	0.032 J	n.a.	620
Nitrobenzene	0.19 U	0.19 U	0.19 U	n.a.	n.a.
N-Nitrosodi-n-propylamine	0.19 U	0.19 U	0.19 U	n.a.	n.a.
N-Nitrosodiphenylamine	0.19 U	0.19 U	0.19 U	5.0	n.a.
Pentachlorophenol	0.33 U	0.34 U	0.33 U	0.27	15
Phenanthrene	0.038 U	0.12	0.21	n.a.	6.3 (proposed)
Phenol	0.29 U	0.29 U	0.29 U	n.a.	2,560
Pyrene	0.029 U	0.025 J	0.046	960	n.a.

Notes:

Italics indicates the compound was not detected.

Bold indicates the compound exceeded the Idaho REM.

Underlined text indicates the compound exceeded a federal standard.

- (1) Idaho Risk Evaluation Manual (DEQ 2004).
- (2) Ambient Water Quality Criteria (Buchman 1999).

### Key:

ARAR = applicable or relevant and appropriate requirement

AWQC = Ambient Water Quality Criteria

 $\begin{array}{ll} ID & = identification \\ J & = estimated \ value \\ \mu g/L & = microgram \ per \ liter \\ REM & = Risk \ Evaluation \ Manual \\ SVOC & = semivolatile \ organic \ compound \end{array}$ 

# Summary of PCBs and NWTPH-Dx Results in Surface Water Samples Avery Landing Site Avery, Idaho

Sample ID:	07040132	07040133	07040134	AR	ARs
Sample Location:	SW-01	SW-02	SW-03	Idaho REM <sup>(1)</sup>	Federal AWQC (2)
PCBs (μg/L)					
Aroclor-1016	0.048 U	0.048 U	0.056 U	n.a.	n.a.
Aroclor-1221	0.048 U	0.048 U	0.056 U	n.a.	n.a.
Aroclor-1232	0.048 U	0.048 U	0.056 U	n.a.	n.a.
Aroclor-1242	0.048 U	0.048 U	0.056 U	n.a.	n.a.
Aroclor-1248	0.048 U	0.048 U	0.056 U	n.a.	n.a.
Aroclor-1254	0.048 U	0.048 U	0.056 U	n.a.	n.a.
Aroclor-1260	0.048 U	0.048 U	0.056 U	n.a.	n.a.
NWTPH-Dx (μg/L)					
Sample ID:	07040132	07040133	07040134	AR	ARs
Sample Location:	SW-01	SW-02	SW-03	Idaho REM <sup>(1)</sup>	Federal AWQC (2)
Diesel-Range Organics	48 U	320	2,300	n.a.	n.a.
Oil-Range Organics	190 U	190 U	1,200	n.a.	n.a.

Notes:

Italics indicates the compound was not detected.

Bold indicates the compound exceeded the Idaho REM.

Underlined text indicates the compound exceeded a federal standard.

- (1) Idaho Risk Evaluation Manual (DEQ 2004).
- (2) Ambient Water Quality Criteria (Buchman 1999).

Key:

ARAR = applicable or relevant and appropriate requirement

AWQC = Ambient Water Quality Criteria

ID = identification

J = estimated value

μg/L = microgram per liter

n.a. =not available

NWTPH-Dx = Northwest Total Petroleum Hydrocarbon,

Diesel Range Extended

PCBs = polychlorinated biphenyls

# Summary of TAL Metal Results in Surface Waters Samples Avery Landing Site Avery, Idaho

Sample ID:	07040132	07040133	07040134	A	RARs
_				Idaho	Federal
Sample Location:	SW-01	SW-02	SW-03	REM (1)	AWQC (2)
TAL Metals (μg/L)					
Aluminum	32 U	32 U	32 U	n.a.	n.a.
Antimony	0.203 U	0.0903 U	0.056 U	14	50 (proposed)
Arsenic	0.209 J	0.248 J	0.296 J	50	150
Barium	<u>4.76</u> J	<u>5.11</u> <u>J</u>	<u>4.71</u> <u>J</u>	n.a.	4.0
Beryllium	0.043 U	0.043 U	0.043 U	n.a.	5.3
Cadmium	0.094 U	0.094 U	0.094 U	1.0	0.25 H
Calcium	8,270	8,700	7,920	n.a.	n.a.
Chromium	0.364 U	0.326 U	0.263 U	178	74 H (3)
Cobalt	0.029 J	0.0327 J	0.028 U	n.a.	n.a.
Copper	0.52 UJ	0.52 UJ	0.52 UJ	11	9 H
Iron	53.2 J	53.6 J	48.7 J	n.a.	1000
Lead	0.075 UJ	0.075 UJ	0.075 UJ	2.5	2.5 H
Magnesium	1,830 J	1,930 J	1,770 J	n.a.	n.a.
Manganese	1.07 J	1.31 J	1.37 J	n.a.	120
Mercury	0.018 UJ	0.018 UJ	0.018 UJ	0.012	0.77
Nickel	0.364 U	0.32 U	0.282 U	157	52 H
Potassium	455	488	431	n.a.	n.a.
Selenium	0.11 UJ	0.11 UJ	0.11 UJ	5.0	5.0
Silver	0.085 U	0.085 U	0.085 U	3.4	1.6 H
Sodium	1,030	1,020	971	n.a.	n.a.
Thallium	0.044 U	0.044 U	0.044 U	1.7	40
Vanadium	0.173 U	0.231 U	0.342 U	n.a.	n.a.
Zinc	9.55 UJ	1.8 UJ	2.48 UJ	105	120 H

Notes: Italics indicates that the compound was not detected.

Bold type indicates that the compound exceeds the Idaho REM.

Underline type indicates that the compound exceeds the Federal AWQC.

- (1) Idaho Risk Evaluation Manual (DEQ 2004).
- (2) Ambient Water Quality Criteria (Buchman 1999).
- (3) Chromium value is for chromium (III).

### Key:

ARAR = applicable or relevant and appropriate requirement

AWQC = Ambient Water Quality Criteria

H = value is hardness dependent; a hardness of 100 mg/L is assumed.

 $\begin{array}{ll} ID & = identification \\ J & = estimated \ value \\ mg/L & = milligrams \ per \ liter \\ \mu g/L & = microgram \ per \ liter \\ TAL & = target \ analyte \ list \\ \end{array}$ 

## Summary of Volatile Organic Compund Results in Product Sample Avery Landing Site Avery, Idaho

Sample Number:	7040131
Sample Location:	HC-4
VOCs (μg/L)	
1,1,1-Trichloroethane	2,000 U
1,1,2,2-Tetrachloroethane	2,000 U
1,1,2-Trichloroethane	2,000 U
1,1-Dichloroethane	2,000 U
1,1-Dichloroethene	2,000 U
1,2-Dichloroethane	2,000 U
cis-1,2-Dichloroethene	2,000 U
trans-1,2-Dichloroethene	2,000 U
1,2-Dichloropropane	2,000 U
cis-1,3-Dichloropropene	2,000 U
trans-1,3-Dichloropropene	2,000 U
2-Butanone	10,000 U
2-Hexanone	10,000 U
4-Methyl-2-pentanone	10,000 U
Acetone	10,000 U
Benzene	2,000 U
Bromodichloromethane	1,500 J
Bromoform	2,000 U
Bromomethane	2,000 U
Carbon disulfide	2,000 U
Carbon tetrachloride	2,000 U
Chlorobenzene	1,600 J
Chloroethane	2,000 U
Chloroform	2,000 U
Chloromethane	2,000 U
Dibromochloromethane	2,000 U
Dichlorodifluoromethane	2,000 U
Ethylbenzene	2,000 U
Methylene chloride	2,700
Styrene	2,000 U
Tetrachloroethene	2,000 U
Toluene	2,000 U
Trichloroethene	2,000 U
Trichlorofluoromethane	2,000 U
Vinyl chloride	2,000 U
m,p-Xylene	4,000 U
o-Xylene	2,000 U

Note: Italics indicates that the compound was not detected.

### Key:

 $\begin{array}{ll} ID & = identification \\ J & = estimated \ value \\ \mu g/L & = microgram \ per \ liter \end{array}$ 

**Table 4-15** 

### Summary of Semivolatile Organic Compund Results in Product Sample Avery Landing Site Avery, Idaho

Sample ID:	07040131
Sample Location:	HC-4
SVOCs (μg/kg)	
1,2,4-Trichlorobenzene	43,000 U
1,2-Dichlorobenzene	43,000 U
1,3-Dichlorobenzene	43,000 U
1,4-Dichlorobenzene	43,000 U
1-Methylnaphthalene	1,700,000
2,4,5-Trichlorophenol	85,000 U
2,4,6-Trichlorophenol	130,000 U
2,4-Dichlorophenol	85,000 U
2,4-Dimethylphenol	85,000 U
2,4-Dinitrophenol	850,000 U
2,4-Dinitrotoluene	85,000 U
2,6-Dinitrotoluene	85,000 U
2-Chloronaphthalene	17,000 U
2-Chlorophenol	85,000 U
2-Methylnaphthalene	2,400,000
2-Methylphenol	85,000 U
2-Nitroaniline	85,000 U
2-Nitrophenol	85,000 U
3 & 4 Methylphenol	170,000 U
3,3'-Dichlorobenzidine	170,000 U
3-Nitroaniline	85,000 U
4,6-Dinitro-2-methylphenol	850,000 U
4-Bromophenyl phenyl ether	85,000 U
4-Chloro-3-methylphenol	85,000 U
4-Chloroaniline	85,000 U
4-Chlorophenyl phenyl ether	85,000 U
4-Nitroaniline	85,000 U
4-Nitrophenol	850,000 U
Acenaphthene	130,000
Acenaphthylene	17,000 U
Anthracene	63,000
Benzo[a]anthracene	17,000 J
Benzo[a]pyrene	24,000 J
Benzo[b]fluoranthene	21,000
Benzo[g,h,i]perylene	21,000 U
Benzo[k]fluoranthene	21,000 U
Benzoic acid	2,100,000 U

Key is on last page.

### Summary of Semivolatile Organic Compund Results in Product Sample Avery Landing Site Avery, Idaho

Sample ID:	07040131
Sample Location:	HC-4
SVOCs (μg/kg)	
Benzyl alcohol	85,000 U
Bis(2-chloroethoxy)methane	85,000 U
Bis(2-chloroethyl)ether	85,000 U
Bis(2-chloroisopropyl) ether	130,000 U
Bis(2-ethylhexyl) phthalate	1,300,000 U
Butyl benzyl phthalate	85,000 U
Carbazole	130,000 UJ
Chrysene	29,000
Dibenz[a,h]anthracene	34,000 U
Dibenzofuran	85,000 U
Diethyl phthalate	85,000 U
Dimethyl phthalate	85,000 U
Di-n-butyl phthalate	170,000 U
Di-n-octyl phthalate	170,000 U
Fluoranthene	37,000
Fluorene	360,000
Hexachlorobenzene	43,000 U
Hexachlorobutadiene	43,000 U
Hexachlorocyclopentadiene	85,000 U
Hexachloroethane	85,000 U
Indeno[1,2,3-cd]pyrene	34,000 UJ
Isophorone	85,000 U
Naphthalene	320,000
Nitrobenzene	85,000 U
N-Nitrosodi-n-propylamine	85,000 U
N-Nitrosodiphenylamine	43,000 UJ
Pentachlorophenol	85,000 U
Phenanthrene	700,000
Phenol	85,000 U
Pyrene	69,000

Note: Italics indicates that the compound was not detected.

### Key:

ID = identification J = estimated value

μg/kg = microgram per kilogram

SVOC = semivolatile organic compound

### Summary of PCB and NWTPH-Dx Results in Product Sample Avery Landing Site Avery, Idaho

Sample ID:	07040131
Sample Location:	HC-4
PCBs (μg/kg)	
Aroclor-1016	470 U
Aroclor-1221	470 U
Aroclor-1232	470 U
Aroclor-1242	470 U
Aroclor-1248	470 U
Aroclor-1254	470 U
Aroclor-1260	330 J
NWTPH-Dx (mg/kg)	
Sample ID:	07040131
Sample Location:	HC-4
Diesel-Range Organics	1,100,000
Oil-Range Organics	260,000

Note: Italics indicates that the compound was not detected.

### Key:

ID = identification J = estimated value

μg/kg = microgram per kilogram mg/kg = milligrams per kilogram

NWTPH-Dx = Northwest Total Petroleum Hydrocarbon,

Diesel Range Extended

PCBs = polychlorinated biphenyls

### Summary of TAL Metals Results in Product Sample Avery Landing Site Avery, Idaho

Sample ID:	07040131
Sample Location:	HC-4
TAL Metals (mg/kg)	
Aluminum	71.2
Antimony	0.28 J
Arsenic	3.1
Barium	2.3
Beryllium	0.013 U
Cadmium	0.061 J
Calcium	55.9 J
Chromium	3.4
Cobalt	0.38
Copper	10.9
Iron	35.9
Lead	1.6
Magnesium	1.3 U
Manganese	0.74 J
Mercury	0.00546 U
Nickel	21.8
Potassium	7.6 J
Selenium	0.23 J
Silver	0.038 J
Sodium	5.5 J
Thallium	0.0091 U
Vanadium	21.9
Zinc	1.5 U

Note: Italics indicates that the compound was not detected.

### Key:

ID = identification J = estimated value

mg/kg = milligrams per kilogram

TAL = target analyte list

U = not detected (at the indicated reporting limit)

			<b>Table 4-18</b>			
	Sum	mary of Exceed	dences of Federal A Avery Landing Site Avery, Idaho	Summary of Exceedences of Federal Action Levels in Soil Avery Landing Site Avery, Idaho	ii.	
		Benzo[a] anthracene	Benzo[a] pyrene	Benzo[b] fluoranthrene	Dibenz[a,h] anthracene	Arsenic (1)
Property	Sample ID	µg/kg	µg/kg	µg/kg	µg/kg	mg/kg
[HH]	EPA Region 6 HHMSSL - Residential Soil	150	15	150	15	0.39
	EMW-01	n.d.	n.d.	n.d.	n.d.	17.3 J
	EMW-02	n.e.	58	n.e.	n.d.	8.6 J
Domeatr	EMW-06	n.e.	.p.u	n.d.	n.d.	7.5 J
Deliteik	ESB-04	860 / 190	011 / 029	490	n.d.	16.1 J / 5.4 J
	ESB-05	n.e.	22	n.e.	n.d.	17 J
	ESB-06	n.e.	62 J	n.e.	n.d.	6.1 J
	EMW-03	n.d.	n.d.	n.d.	n.d.	7.3 J
	EMW-04	n.e.	85	n.e.	n.e.	12 J
	EMW-05	210	110	n.e.	n.d.	5.7 J
Potlatch	ESB-01	n.d.	.p.u	n.d.	n.d.	15.7 J
	ESB-02	n.e.	43	n.e.	40 J	16.9 J
	ESB-03	n.e.	81 J	n.e.	n.d.	4.2 J
	ESB-07	n.e.	<del>7</del> 4	n.e.	n.d.	5.1 J

Note: (1) The upper limit of background soil concentrations for arsenic in the nearby Coeur d'Alene and Spokane River basins is 22 mg/kg (URS Greiner 2001).

Key:

HHMSSL = Human Health Medium-Specific Screening Level

n.d. = not detected

n.e. = no exceedence of EPA HHMSSL.

						Table 4-19						
				Summary	of Exceede Ave	Summary of Exceedences of State Action Levels in Soil Avery Landing Site Avery, Idaho	tion Levels in So	li o				
		2-Methyl	4-Nitro	Benzo[a]	Benzo[a]	Benzo[b]	,	5	,	,	,	,
Property	Sample ID	naphthalene ug/kg	aniline ug/kg	anthracene ug/kg	pyrene ug/kg	fluoranthrene ug/kg	Naphthalene ug/kg	Arsenic" mg/kg	Iron mg/kg	Lead mg/kg	Manganese mg/kg	Mercury mg/kg
Idaho F	Idaho Risk Evaluation Manual	3,310	3	422	42	422	1,144	0.39	5.8	50	223	0.0051
	EMW-01	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	17.3 J	24,600	n.e.	403 J	0.0199 J
	EMW-02	n.e.	n.d.	n.e.	85	n.e.	n.e.	8.6 J	20,000	n.e.	260 J	0.0124 J
Dontoil	EMW-06	44,000	n.d.	n.e.	n.d.	n.d.	4,700	7.5 J	16,900	n.e.	319 J	0.0105 J
Deliteik	ESB-04	18,000	n.d.	098	650 / 110	490	3,100	16.1 J/5.4 J	16,800 / 16,300	69.1	315 J / 240 J	0.0312 J
	ESB-05	n.e.	5.4 J	n.e.	37	n.e.	n.e.	17 J	18,400	n.e.	n.e.	n.d.
	ESB-06	9,800	.b.n	n.e.	62 J	n.e.	2,600  J	6.1 J	17,100	n.e.	n.e.	n.d.
	EMW-03	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	7.3 J	15,100	n.e.	n.e.	0.0114 J
	EMW-04	n.e.	.p.u	n.e.	28	n.e.	n.e.	12 J	19,700	145	354 J	0.0553 J
	EMW-05	23,000	.p.u	n.e.	110	n.e.	3,600	5.7 J	18,000	n.e.	271 J	0.0119 J
Potlatch	ESB-01	n.e.	.p.u	.p.u	.p.u	n.d.	.p.u	15.7 J	18,900	n.e.	n.e.	n.d.
	ESB-02	n.e.	.p.u	n.e.	43	n.e.	n.e.	16.9 J	19,300	159	288 J	0.117
	ESB-03	15,000	.p.u	n.e.	81 J	n.e.	6,000 J	4.2 J	15,000	n.e.	n.e.	n.d.
	ESB-07	n.e.	.p.u	n.e.	44	n.e.	n.e.	5.1 J	15,100	n.e.	n.e.	n.d.

(1) The upper limit of background soil concentrations for arsenic in the nearby Coeur d'Alene and Spokane River basins is 22 mg/kg (URS Greiner 2001). Note:

Key:

n.d. n.e.

= not detected = no exceedence of Idaho Risk Evaluation Manual

					Table 4-20	0;						
			Sum	Summary of Exceedences of Federal Action Levels in Water Avery Landing Site Avery, Idaho	lences of Federal Ac Avery Landing Site Avery, Idaho	ral Action Lo ig Site iho	evels in Water					
		Benzo[a] anthracene	Benzo[a] pyrene	Benzo[b] fluoranthrene	Benzo[g,h,i] perylene	Chrysene	Naphthalene	Aluminum	Arsenic	Iron	Lead	Manganese
Property	Sample ID	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L
Groundwater	Y.											
Drin	Drinking Water Standard (MCL)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	200 (1)	10 (2)	300	15	50
EPA Reg	EPA Region 6 HHMSSL - Tap Water	0.029	0.0029	0.15	0.029	2.9	6.2	36,500	0.045	25,550	15	1,700
	EMW-01	n.d.	.p.u	n.d.	n.d.	.p.u	n.e.	.p.u	0.303 J	n.e.	.p.u	120
Dontoile	EMW-02	0.37	0.20	n.e.	0.11	n.e.	n.e.	2,050	988	26,100	n.e.	3,300
Delitera	EMW-06	1.6	0.85	0.84	0.51	3.0	63	32,200	58.6	80,500	39.8	3,920
	S-WM	n.d.	.p.u	n.d.	.p.u	n.d.	n.d.	n.e.	0.655 J	.e.	n.e.	n.e.
	EMW-03	n.d.	.p.u	n.d.	n.d.	n.d.	n.d.	n.e.	30.7	30,800	n.e.	5,510
	EMW-04	n.e.	.p.u	n.e.	0.037	n.e.	n.d.	n.e.	13.7	31,300	n.e.	3,430
Potlatch	EMW-05	n.d.	.p.u	n.d.	.p.u	n.d.	7.1	634	51.4	23,000	n.e.	2,980
	HC-1R	n.d.	n.d.	n.d.	.p.u	n.d.	n.d.	n.d.	46.6	20,600	n.d.	5,630
	DW-01	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	1.06	n.e.	n.d.	n.e.
Surface Water	ter											
	Federal AWQC	n.a.	0.014	n.a.	n.a.	n.a.	n.a.	n.a.	150	n.a.	2.5	120

Notes:

n.e.

0.027

Bis(2-ethyl hexyl) phthalate is not included because it is a common laboratory contaminant and it was present in the background well.

Barium is not included for surface water because the concentrations exceeded the Federal AWQC in all three samples, including the upstream/background sample.

n.e.

n.e.

n.d.

A bold sample result indicates that the sample exceeds both the MCL and the Region 6 tap water guideline.

(1) For aluminum, the federal regulation specifies a range of 50 to 200 µg/L, and the state of Idaho has set the standard at 200 µg/L.

(2) For arsenic, the state standard is 50  $\mu$ g/L, and the federal standard is 10  $\mu$ g/L.

= Ambient Water Quality Criteria AWQC

= Human Health Medium-Specific Screening Level HHMSSL

= Maximum Contaminant Level MCL

= not applicable n.a.

= no exceedence of applicable standard or guideline n.d. n.e.

Bentcik

						<b>Table 4-21</b>							
				Sum	Summary of Exceedences of State Action Levels in Water Avery Landing Site Avery, Idaho	dences of State Actic Avery Landing Site Avery, Idaho	tion Levels in W	Vater					
		2-Methyl	Benzo[a]	Benzo[a]	Benzo[a]	Chargona	N-Nitro sodiphenyl	Almimur	ojmosa V	804	poo I	Mongoogo	PCBs
Property	Sample ID	naphtnaiene ug/L	ug/L	ng/L	nuorantinrene ug/L	ug/L	allillie ug/L	ng/L	ug/L	ug/L	ug/L	Manganese ug/L	ug/L
Groundwater	iter												
Ground	Groundwater Standard (MCL)	n.a.	n.a.	0.20	n.a.	n.a.	n.a.	200 (1)	50 (2)	300	15	50	0.5
Idaho I	Idaho Risk Evaluation Manual	42	2200	0.20	0.077	7.7	11	n.a.	10	3,130	15	250	0.0279
	EMW-01	n.e.	.p.u	n.d.	n.d.	n.d.	n.d.	n.d.	n.e.	n.e.	n.d.	n.e.	n.d.
Dominit	EMW-02	n.e.	0.37	0.20	0.12	n.e.	n.d.	2,050	9.88	26,100	n.e.	3,300	n.d.
Deliteir	EMW-06	270	1.6	0.85	0.84	n.e.	12	32,200	58.6	80,500	39.8	3,920	0.028
	MW-5	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.e.	n.e.	n.e.	n.e.	n.e.	n.d.
	EMW-03	n.d.	.p.u	n.d.	n.d.	n.d.	n.d.	n.e.	30.7	30,800	n.e.	5,510	n.d.
	EMW-04	n.d.	n.e.	n.d.	n.e.	n.e.	n.d.	n.e.	13.7	31,300	n.e.	3,430	n.d.
Potlatch	EMW-05	n.e.	.p.u	n.d.	n.d.	n.d.	n.d.	634	51.4	23,000	n.e.	2,980	n.d.
	HC-1R	n.d.	.p.u	n.d.	n.d.	n.d.	n.d.	n.d.	46.6	50,600	n.d.	5,630	n.d.
	DW-01	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.e.	n.e.	n.d.	n.e.	n.d.
Surface Water	ater												
Idaho I	Idaho Risk Evaluation Manual	n.a.	0.0028	0.0028	0.0028	0.0028	n.a.	n.a.	90	n.a.	2.5	n.a.	n.a.
Bentcik	SW-03	n.d.	0.011 J	0.027	0.023 J	0.016 J	n.d.	n.d.	n.e.	n.e.	n.d.	n.e.	n.d.
Note: I	Bis(2-ethyl hexyl) phthalate is not included because it is a common laboratory contaminant and it was present in the background well	is not included bea	cause it is a comn	10n laboratory	contaminant and it	t was present in	the background v	well.					

Bis(2-ethyl hexyl) phthalate is not included because it is a common laboratory contaminant and it was present in the background well. A bold sample result indicates that the sample exceeds both the groundwater standard and the Idaho Risk Evaluation Manual guideline. (1) For aluminum, the federal regulation specifies a range of 50 to 200 µg/L, and the state of Idaho has set the standard at 200 µg/L. (2) For arsenic, the state standard is 50 µg/L, and the federal standard is 10 µg/L.

Key:

= not applicable n.a.

= not detected = no exceedence of Idaho Risk Evaluation Manual n.d. n.e.

		Comparison of §	Soil Sample Result	s to Consensus-Based Sed Avery Landing Site Avery, Idaho	ed Sediment Threst g Site ho	Comparison of Soil Sample Results to Consensus-Based Sediment Threshold Effect Concentrations Avery Landing Site Avery, Idaho	ations		
Sample ID:	07040102	07040104	07040106	07040108	07040110	07040114	07040116	07040117	Consensus-Based
Sample Location:	EMW-01 SB 02	EMW-02 SB 07	EMW-03 SB 11	EMW-04 SB 03	EMW-05 SB 09	EMW-06 SB 09	ESB-01 SB 07	ESB-02 SB 03	Sediment TEC <sup>(1)</sup>
PAHs (µg/kg)									
Anthracene	14 J	91	2.7 U	7.1 J	200	250	22 U	6.5 J	57.2
Benzo[a]anthracene	27 UJ	120	3.4 U	38 J	210	53	28 U	29	108
Benzo[a]pyrene	33 UJ	85	4.1 U	58	110	39 U	33 U	43	150
Chrysene	27 UJ	180	3.4 U	48	360	120	$\Omega$ 87	37	166
Dibenz[a,h]anthracene	44 UJ	47 U	5.5 U	36 J	50 U	53 U	45 U	40 J	33.0
Fluoranthene	26	99	2.7 U	61 J	460	66	$\Omega$ $ZZ$	33	423
Fluorene	22 U	180	6.7	22 U	2,800	4,900	$\Omega$ $ZZ$	22 U	77.4
Naphthalene	22 U	81	2.7 U	19 J	3,600	4,700	22 U	100	176
Phenanthrene	22 U	420	2.7 U	43	5,800	3,800	$\Omega$ 22	68	204
Pyrene	44	370	2.7 U	65	840	240	22 U	43	195
PCBs (μg/kg)									
Aroclor-1260	9.8 J	12 U	130	19	20 J	9.2 J	II $U$	4.4 J	59.8 (2)
TAL Metals (mg/kg)									
Sample ID:	07040102	07040105	07040106	07040108	07040110	07040113	07040116	07040117	Consensus-Based Sediment
Sample Location:	EMW-01 SB 02	EMW-02 SB 05	EMW-03 SB 11	EMW-04 SB 03	EMW-05 SB 09	EMW-06 SB 07	ESB-01 SB 07	ESB-02 SB 03	TEC (1)
Arsenic	17.3 J	8.6 J	7.3 J	12 J	5.7 J	7.5 J	15.7 J	16.9 J	9.79
Cadmium	0.47 J	0.52 J	0.45 J	0.81 J	0.39 J	0.43 J	0.53 J	0.78 J	0.99
Chromium	18.8	18.4	11.9	15.1	13.2	12.8	12.1	12.3	43.4
Copper	23.7	21.5	20.8	101	25.1	20.7	20.5	71.6	31.6
Lead	11	9.5	9.3	145	6.1	8.3	17.3	159	35.8
Mercury	0.0199 J	0.0124 J	0.0114 J	0.0553 J	0.0119 J	0.0105 J	0.0064 UJ	0.117	0.18
Nickel	16.5	16.3	13.3	24.9	13.1	13.4	16.1	32.3	22.7
Zinc	48.7	47.3	42.2	101	34.9	42.5	26	72.3	121

			Table	Table 4-22 (Continued)				
	Сош	Comparison of Soil Sample Results to Consensus-Based Sediment Threshold Effect Concentrations Avery Landing Site Avery, Idaho	ple Results to Cons Ave	onsensus-Based Sedim Avery Landing Site Avery, Idaho	ent Threshold Effe	ct Concentrations		
Sample ID:	07040119	07040120	07040122	07040124	07040125	07040127	07040129	Consensus-Based
Sample Location:	ESB-03 SB 11	ESB-04 SB 03	ESB-04 SB 07	ESB-05 SB 15	ESB-05 SB 23	ESB-06 SB 11	ESB-07 SB 13	Sediment TEC <sup>(1)</sup>
PAHs (µg/kg)								
Anthracene	180 J	480	530	120	3.7	£ 015	220	57.2
Benzo[a]anthracene	120 J	860	190	38	1.3 J	130 J	84	108
Benzo[a]pyrene	81 J	650	110	37	3.3 U	62 J	44	150
Chrysene	290 J	1,400	370	53	1.7 J	180 J	120	166
Dibenz(a,h)anthracene	52 UJ	440~U	50 U	44 U	4.3 U	IO 6 $t$	43 U	33.0
Fluoranthene	170 J	1,400	310	70	2.4	520 J	340	423
Fluorene	2,300 J	1,000	2,900	009	21	1,400 J	1,700	77.4
Naphthalene	6,000 J	240	3,100	410	15	2,600 J	1,000	176
Phenanthrene	3,600 J	3,300	4,400	096	37	4,600 J	2,500	204
Pyrene	510 J	3,200	069	140	4.7	770 J	430	195
PCBs (µg/kg)								
Aroclor-1260	13 U	22	13 U	II U	10 U	6.8 J	6.5 J	59.8 (2)
TAL Metals (mg/kg)								
Sample ID:	07040119	07040120	07040122	07040124	07040125	07040127	07040129	Consensus-Based Sediment
Sample Location:	ESB-03 SB 11	ESB-04 SB 03	ESB-04 SB 07	ESB-05 SB 15	ESB-05 SB 23	ESB-06 SB 11	ESB-07 SB 13	TEC (1)
Arsenic	4.2 J	16.1 J	5.4 J	17 J	Not Analyzed	6.1 J	5.1 J	9.79
Cadmium	0.36 J	0.86	0.36 J	0.29 J	Not Analyzed	0.41 J	0.23 J	0.99
Chromium	10.9	12	11.2	10.8	Not Analyzed	10.7	7.7	43.4
Copper	18.7	44.7	18.1	21.3	Not Analyzed	20.2	43	31.6
Lead		69.1	4.3	2.3	Not Analyzed	6.3	4.7	35.8
Mercury	0.00713 UJ	0.0312 J	0.00697 UJ	0.00625 UJ	Not Analyzed	0.00691 UJ	0.00609 UJ	0.18
Nickel	12.9	17.8	12.9	15	Not Analyzed	12.1	8.7	22.7
Zinc	34.4	111	29.5	18.4	Not Analyzed	33.4	20.7	121

Notes:

= estimated value = identification

= microgram per kilogram = polycyclic aromatic hydrocarbon = Threshold Effects Concentration = not detected (at the indicated reporting limit) = not detected (estimated reporting limit) ID
J
Hg/kg
PAH
TEC
U

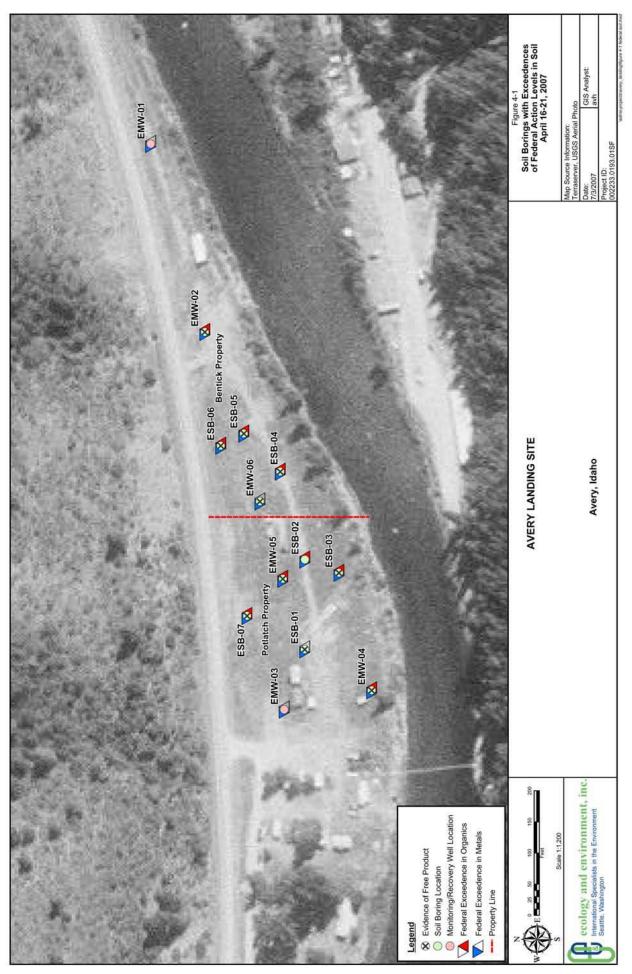
4-40

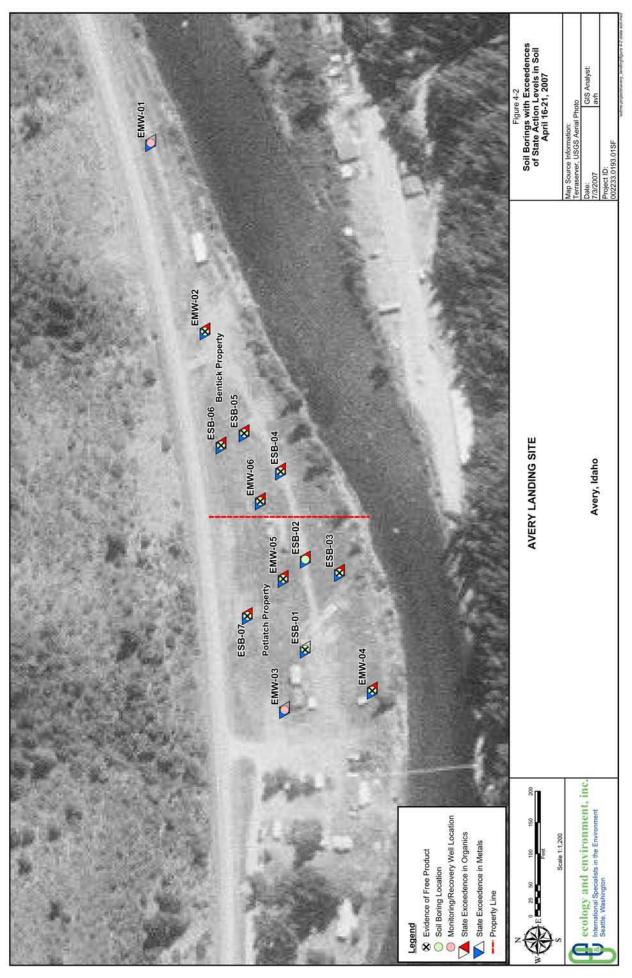
Italies indicates that the compound was not detected.

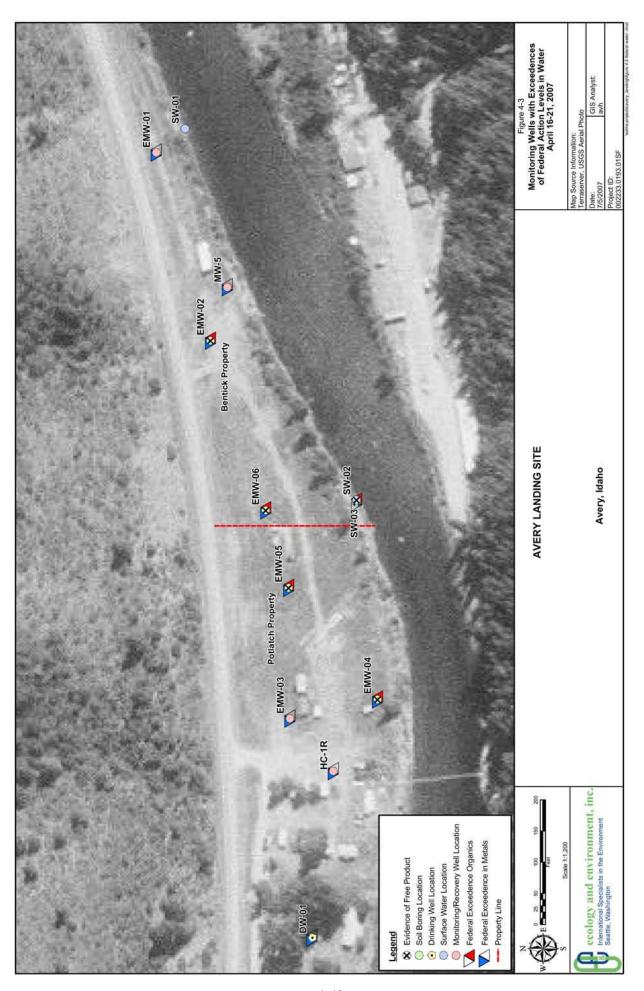
Bold type indicates that the compound exceeds the Sediment TEC.

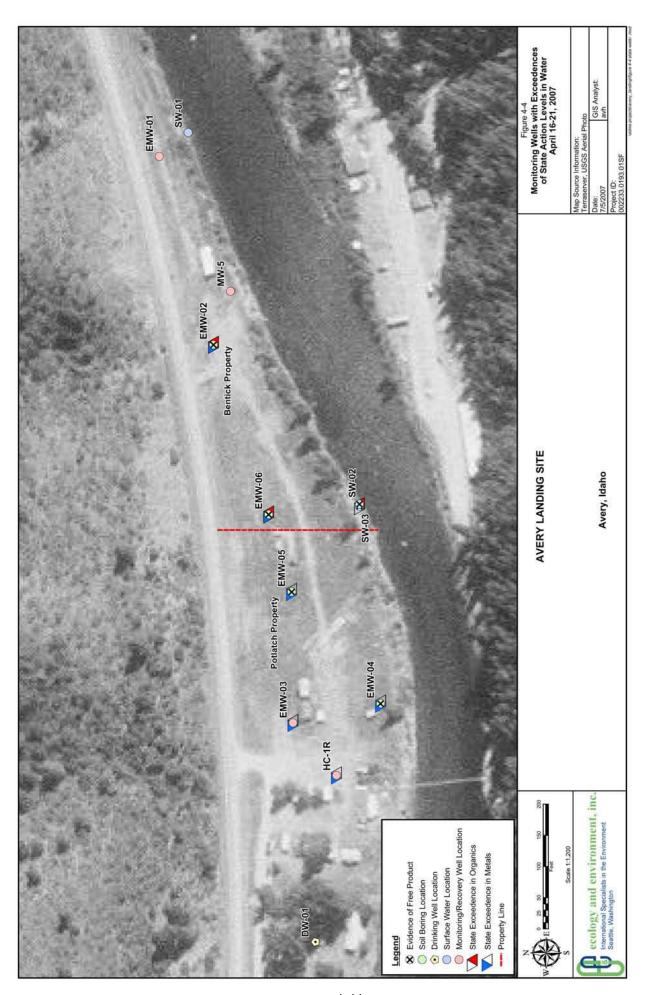
(1) Consensus-Based Sediment Threshold Effects Concentrations (MacDonald et al. 2000)

(2) The PCB Sediment TEC is for total PCBs.









### 5.0 QUALITY ASSURANCE / QUALITY CONTROL

Quality assurance / quality control (QA/QC) data are necessary to determine precision and accuracy and to demonstrate the absence of interferences and/or contamination of sampling equipment, glassware and reagents. Specific QC requirements for laboratory analyses are incorporated in the Contract Laboratory Program Statement of Work for Inorganic Analyses (EPA 2007b) and the Contract Laboratory Program Statement of Work for Organic Analyses (EPA 2005). These QC requirements or equivalent requirements found in the analytical methods were followed for analytical work on the project. This section describes the QA/QC measures taken for the project and provides an evaluation of the usability of data presented in this report.

All samples were collected following the guidance of the SSSP (E & E 2007) for the field activities. Target analyte list (TAL) metals analyses following EPA SW-846 methods 6010, 6020, and 7471, total petroleum hydrocarbon extended diesel-range analyses following Washington Department of Ecology (Ecology) methods NWTPH-Dx, and semivolatile organic compound (SVOC) analyses following EPA SW-846 method 8270 were performed by Laucks Testing Laboratories, Inc., a commercial laboratory located in Seattle, Washington, and polychlorinated biphenyls (PCBs) analyses following EPA SW-846 method 8082 and volatile organic compound (VOC) analyses following EPA SW-846 method 8260 were performed by STL-Seattle, Inc., a commercial laboratory located in Tacoma, Washington.

Commercial laboratory data validation was conducted by a START chemist. Data qualifiers were applied as necessary according to the following guidance:

- USEPA (2004a) Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Methods Data Review.
- USEPA (2004b) Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review.

In the absence of other QC guidance, method-specific QC limits were also utilized to apply qualifiers to the data.

### 5.1 SATISFACTION OF DATA QUALITY OBJECTIVES

The following EPA (EPA 2000) guidance document was used to establish data quality objectives (DQOs) for this project:

• Guidance for the Data Quality Objectives Process (EPA QA/G-4), EPA/600/R-96/055.

The OSC determined that definitive data without error and bias determination would be used for the sampling and analyses conducted during the field activities. The data quality achieved during the field work produced sufficient data that met the DQOs stated in the SSSP (E & E 2007). A detailed discussion of accomplished project objectives is presented in the following subsections.

### 5.2 QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

QA samples included rinsate blank and trip blank samples. One rinsate blank sample and one trip blank sample were collected during the START field event, therefore meeting the frequency criteria of one rinsate blank sample per 20 samples collected using non-dedicated sampling equipment and one trip blank sample per VOC sample cooler. The rinsate blank is discussed in subsection 4.4.3 and the trip blank is discussed in subsection 4.4.4. QC samples included matrix spike (MS)/matrix spike duplicate (MSD) samples for organic analyses at a rate of one MS/MSD per 20 samples per matrix per analysis.

### 5.3 PROJECT-SPECIFIC DATA QUALITY OBJECTIVES

The commercial laboratory data were reviewed to ensure that DQOs for the project were met. The following describes the laboratories' ability to meet project DQOs for precision, accuracy and completeness and the field team's ability to meet project DQOs for representativeness and comparability. The laboratory and the field team were able to meet DQOs for the project.

### 5.3.1 Precision

Precision measures the reproducibility of the sampling and analytical methodology. Laboratory and field precision is defined as the relative percent difference (RPD) between duplicate sample analyses. The laboratory duplicate samples or MS/MSD samples measure the precision of the analytical method.

The RPD values were reviewed for all laboratory analyses. A total of 21 sample results (approximately 0.55% of the data) were qualified as estimated quantities (J of UJ) based on laboratory duplicate QC outliers. The DQO for precision of 85% was met.

### 5.3.2 Accuracy

Accuracy measures the reproducibility of the sampling and analytical methodology. Laboratory accuracy is defined as the surrogate spike or the MS percent recoveries. The surrogate percent recovery values were reviewed for all appropriate sample analyses. A total of 83 sample results (approximately 2.2% of the data) were qualified as estimated quantities (J or UJ) based on surrogate outliers. The MS percent recovery values were reviewed for all MS/MSD analyses. A total of 94 sample results

(approximately 2.5% of the data) were qualified as estimated quantities (J or UJ) based on matrix spike outliers. The project DQO for accuracy of 85% was met.

### **5.3.3** Completeness

Data completeness is defined as the percentage of usable data (usable data divided by the total possible data). All data were reviewed for usability. A total of 17 sample results (approximately 0.45% of the data) were rejected (R), therefore the project DQO for completeness of 90% was met.

### 5.3.4 Representativeness

Data representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point or environmental condition. The number and selection of samples were determined in the field to account accurately for site variations and sample matrices. The DQO for representativeness of 85% was met.

### 5.3.5 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another. Data produced for this site followed applicable field sampling techniques and specific analytical methodology. The DQO for comparability was met.

### 5.4 LABORATORY QUALITY ASSURANCE/QUALITY CONTROL PARAMETERS

The laboratory data also were reviewed for holding times/temperatures, laboratory method blank samples, rinsate blank samples, trip blank samples, and serial dilution analyses. These QA/QC parameters are summarized below. In general, the laboratory and field QA/QC parameters were considered acceptable.

### **5.4.1** Holding Times/Temperatures

All samples were maintained and received within QC temperature limits and all samples were analyzed within QC holding time limits.

### 5.4.2 Laboratory Blanks

The laboratory method blanks met the frequency criteria. The following potential contaminants of concern were detected in laboratory blanks and affected sample results:

SVOCs: bis(2-ethylhexyl)phthalate, butylbenzyl phthalate, di-n-butyl phthalate;

TAL Metals: antimony, calcium, chromium, lead, mercury, selenium, thallium; and

VOCs: acetone, methylene chloride, and 4-methyl-2-pentanone.

Associated sample results less than 5 times the positive laboratory blank results (ten times for common contaminants) were qualified as not detected (U).

### 5.4.3 Rinsate Blanks

One rinsate blank sample was analyzed for each 20 samples collected using non-dedicated sampling equipment, meeting the frequency criteria. The following contaminants of concern were detected in the rinsate blank sample and resulted in sample qualifications:

SVOCs: 2-methylnaphthalene, dimethyl phthalate, diethyl phthalate, phenanthrene;

TAL Metals: sodium; and

VOCs: methylene chloride.

For rinsate blank results greater than the quantitation limits, sample results less than five times the rinsate blank concentration (10 times for common contaminants) were qualified as not detected (U).

### 5.4.4 Trip Blanks

One trip blank sample was collected during the START-3 field event, therefore meeting the frequency criteria of one trip blank sample per VOC sample cooler. The trip blank was collected from a distilled, deionized water source and was maintained with the sample containers. No contaminants of concern were detected in the trip blank sample.

### **5.4.5** Serial Dilution

A serial dilution analysis was performed for every 20 samples per matrix. A total of 42 sample results (approximately 1.1 % of the data) were qualified as estimated quantities (J or UJ) based on serial dilution outliers.

#### 6.0 SUMMARY AND CONCLUSIONS

START-3 performed a removal assessment at the Avery Landing site in Avery, Idaho, to investigate the potential release of CERCLA hazardous substances and environmental impacts related to the site's past use as a railroad roundhouse, maintenance, and refueling facility. The site is located on the St. Joe River, which is designated a special resource water. The St. Joe River is an important resource for wildlife habitat and recreation, and it is also used for drinking water.

START-3 performed a field sampling event to observe site conditions and to collect representative samples of various media for analytical testing. During the field sampling event, a licensed driller installed 13 soil borings, of which six were completed as monitoring wells. START-3 collected a total of 43 environmental samples of subsurface soil, groundwater (including one domestic well), surface water, and product, and the samples were analyzed for VOCs, SVOCs, PCBs, NWTPH-Dx, and TAL metals. The investigation did not address the entire site; no drilling was performed to the west of monitoring well HC-1R, where the seasonal and permanent residents live, because of concerns about underground utility lines and septic tanks.

During the field sampling event, START-3 observed free petroleum product throughout the site at levels that exceeded applicable state regulatory standards. Free product was observed floating on the groundwater in monitoring and recovery wells, saturated in subsurface soils collected from soil borings, and seeping from the site into the St. Joe River. In two monitoring wells (HC-4 and TP-2), the product layer was nearly a foot thick (0.88 and 0.72 feet, respectively). In other wells, product was present but the thickness could not be determined because it was too sticky and viscous. Historic documents indicate that free product released at the site was a mixture of diesel fuel and heavy oil (bunker C), and the results of analytical testing confirmed the presence of both diesel and heavy oil. The estimated area of the free product plume has grown since 2000, especially toward the west and southwest, which is downgradient of the source area.

START-3 observed a 200-foot stretch of the site's river bank that contained evidence of past product seep activity, including the presence of oil on riprap at the water level. START-3 also observed several areas of actives seeps within this zone, in which free product was seeping from underneath the riprap at the bank and floating to the surface.

Site subsurface soils were determined to contain a significant amount of silt, and the newly installed monitoring wells recharged slowly during well development. These observations indicate that groundwater at the site may flow relatively slowly compared to flow rates expected for a subsurface geology composed of pure sand. It is clear that the free product plume is moving through the subsurface formation, as product continues to seep to the river and the estimated area has grown downgradient to the

west and southwest. However, it is also seems that much of the remaining free product has remained in the source area, which may be attributed to the relatively lower transmissivity of the silty-sand formation and the lack of sufficient hydraulic pressure from groundwater and rain to flush out the product.

The results of the analytical testing indicated that organic and inorganic CERCLA hazardous substances were detected in most of the site samples. Particularly, many PAH compounds were present in subsurface soil and groundwater samples at concentrations that exceeded applicable state and federal risk-based guidelines. The source of the PAH contamination is likely the petroleum product that is present throughout the site, and it has been documented that the petroleum product was released to soils and groundwater through the site's historic use as a railroad maintenance and refueling facility.

The PCB Aroclor-1260 was detected in several site soil samples and in a sample of the petroleum product, and Aroclor-1260 exceeded the state guideline in one groundwater sample. Aroclor-1260 may be present because the railroad facility serviced electric locomotives, and it was believed that transformer oils were used and stored in the facility.

Several metals were also present at concentrations above applicable guidelines. Arsenic, iron, lead, and manganese exceeded state guidelines in soil and state and federal guidelines in groundwater, and mercury exceeded the state soil guidelines. It is not clear if the metals contamination is present because of site activities. In northern Idaho, many of these metals occur naturally at elevated background concentrations, and many of the metals detected at the Avery Landing Site were present at similar concentrations in many site samples (e.g., arsenic, iron, and manganese in groundwater; and arsenic and iron in soil). However, the lead and mercury samples that exceeded ARARs were detected in a limited number of samples, which may be more indicative of a site-related source. For example, the highest detections of lead and mercury in soil occurred in soil boring ESB-02, which was advanced in the approximate vicinity of the facility's former machine shop. Additionally, the single detection of lead in groundwater that exceeded state and federal ARARs was in monitoring well EMW-06, which was located in the middle of the product-contaminated area.

The upgradient/background well EMW-01 contained trace levels of some VOCs, some PAHs, and Aroclor-1260 in soil. It also contained DRO at a concentration of 1,500 mg/kg and ORO at a concentration of 12,000 mg/kg, which was the highest concentration of ORO detected in soil. The groundwater from this sample also contained trace levels of PAHs and DROs. For metals, the soil sample from EMW-01 contained elevated levels of arsenic, while the groundwater sample contained lower concentrations of some metals than many of the downgradient site samples. In general, these results indicate that historic site activities may have extended as far to the east as EMW-01.

Most of the organic contaminants detected at the site, and the corresponding exceedences of ARARs, were PAHs that are usually associated with petroleum. There were also a few detections of

chlorinated VOCs and SVOCs in soil and groundwater, although none of them exceeded applicable ARARs. Trace levels of the VOC chlorobenzene were detected in soil (EMW-06, ESB-04, and ESB-05), groundwater (EMW-05 and EMW-06), and the product sample (HC-4). Additionally, trace levels of the SVOCs 1,2-dichlorobenzene and 1,4-dichlorobenzene were detected in groundwater. The presence of VOC chlorobenzene and other chlorinated compounds suggests that chlorinated solvents may have been used in the past at the site, and the relatively low concentrations may be a result of the time that has elapsed since their release and/or their volatility and mobility.

The on-site domestic well (DW-01) is downgradient of the site and the petroleum product source area. The domestic well is reportedly screened in a lower aquifer than the groundwater that was sample on site, but it contained concentrations of site contaminants. Groundwater from the domestic well contained the PAH anthracene (0.0026 J  $\mu$ g/L) and DRO (79  $\mu$ g/L) at relatively low concentrations, and it also contained arsenic at a concentration (1.06  $\mu$ g/L) above the EPA Region 6 HHMSSL for tap water (0.045  $\mu$ g/L). While the arsenic may be naturally occurring, the presence of the anthracene and the DRO in the samples suggest that the contaminant plume at the site has the potential to impact the domestic well.

In addition to the visible petroleum product seeps to the river, surface water sample SW-03 contained four PAHs (benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, and chrysene) at concentrations that exceeded Idaho REM guidelines. Benzo[a]pyrene also exceeded the federal AWQC. When compared to sediment guidelines, PAH compounds detected in the soil samples exceeded several consensus-based SQGs.

The results of the removal assessment indicate that there is a large zone of free petroleum product contamination on the groundwater and in subsurface soils at the site at levels that exceed state of Idaho regulatory standards. The petroleum product contains PCBs and other chlorinated compounds, and it is actively seeping to the St. Joe River. Subsurface soil and groundwater samples collected from the site contained several CERCLA hazardous substances (PAHs and metals) that exceeded applicable state and federal guidelines, and a surface water sample also contained PAHs in excess of state and federal guidelines. As long as the petroleum product remains at the site, it will be a continued source for the release of petroleum hydrocarbons to the river and to the domestic well located on site, and it will continue to have a potentially negative impact to surface and groundwater quality in the area.

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### 7.0 REFERENCES

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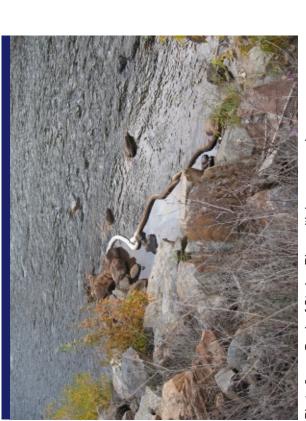
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Appendix A

Photographic Documentation



Taken by: JC Eastern portion of the site, with AST in foreground and Bentcik cabin in background. Date: 4/17/07 Direction: East Photo 1



Bank of St. Joe River with boom around seep area. Photo 3

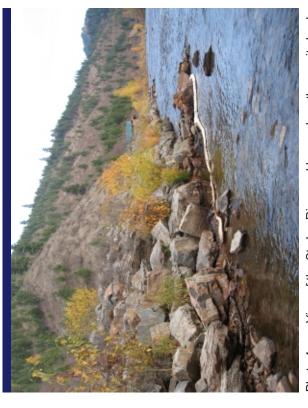
Taken by: SH Date: 10/26/06 Direction: Southeast

Taken by: Steve Hall (SH), Josie Clark (JC), Earl Liverman (EL)



Western portion of the site, with remnants of railroad roundhouse and residences. Photo 2

Taken by: JC Date: 4/17/07 Direction: West



View of the St. Joe River and boom along the on-site bank. Photo 4

Taken by: SH Date: 10/26/06 Direction: East



Close-up of petroleum product on rocks and surface water. Photo 5

Taken by: SH Date: 10/26/06 Direction: Down



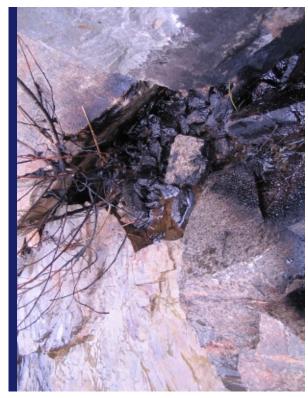
Close-up of petroleum product on rocks and sheen in water.

Taken by: JC Direction: Down

Taken by: Steve Hall (SH), Josie Clark (JC), Earl Liverman (EL)

Close-up of sheen on surface water. Photo 6

Taken by: SH Date: 10/26/06 Direction: Southwest



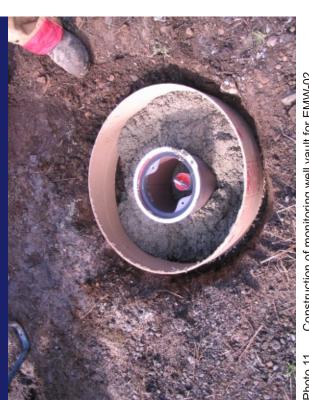
Close-up of petroleum products on rocks and vegetation. Photo 8

Direction: Down



Driller at location of monitoring well EMW-06. Photo 9

Taken by: JC Date: 4/18/07 Direction: Southwest



Construction of monitoring well vault for EMW-02. Photo 11

Taken by: JC Direction: Down

Taken by: Steve Hall (SH), Josie Clark (JC), Earl Liverman (EL)



Drillers advance soil boring ESB-05. Photo 10

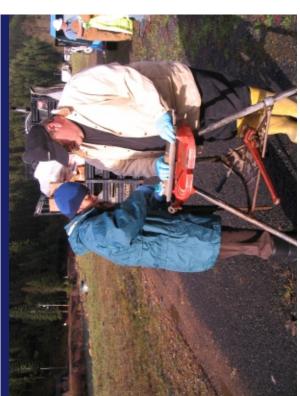
Taken by: JC

Date: 4/19/07

Direction: Northeast

Completion of monitoring well vault for EMW-02. Photo 12





START-3 collects analytical samples from soil core. Photo 13

Taken by: SH Date: 4/17/07 Direction: West



START-3 collects a sample of product from monitoring well HC-4. Photo 15

Direction: East

Taken by: Steve Hall (SH), Josie Clark (JC), Earl Liverman (EL)



Petroleum product on oil/water interface probe at monitoring well HC-4.

Direction: West Date: 4/17/07 Photo 14

Direction: West Taken by: SH

# Avery Landing Site Avery, Idaho



Photo 16 START-3 collects a surface water sample from St. Joe River at SW-03 location.

Niver at SVV-U3 location.

Direction: Down Date: 4/20/07 Taken by: JC



Photo 18 START-3 prepares samples to send to the analytical laboratory.

Taken by: JC

Date: 4/21/07

Direction: West

Taken by: Steve Hall (SH), Josie Clark (JC), Earl Liverman (EL)



Photo 17 START-3 collects a sample from the domestic well on the Potlatch property.

SH
Taken by:
Date: 4/21/07
Direction: Northwest

Appendix B

**Drilling Logs** 

DATE DRILLED: 4/16/2007 LOGGED BY: Jeff Fowlow CHECKED BY: S. Hall

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: Arbitrary Site Datum
LOCATION: Avery, ID

PROJECT NAME: Avery Landing PROJECT LOCATION: Avery, Idaho

SSID #: 10ZZ

EPA TASK MANAGER: Earl Liverman
TDD #: 07-03-0004
START PROJECT #: 002233.0193.01SF
START PROJ MGR: Steve Hall

	ELEVATION DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHICLOG	nscs	SAMPLE INTERVAL BLOW COUNTS RECOVERY (FT)	COMMENTS
	Ground Surface Elevation 97.81 ft	Heavy Gauged Steel Protective Casing 2" PVC			to int at tin ch of	his log is part of the report prepared for the named project and should be read goether with that report for complete therpretation. This summary applies only the location of this boring and at the me of drilling. Subsurface conditions any differ at other locations and may hange at this location with the passage time. The data presented is might fixed. The subsurface conditions of actual conditions on countered.
-	1 - 2 - 95	Hydrated Bentonite chips 20-slot V-wire			2.0  WELL GRADED SAND WITH  GRAVEL.  Moderate brown dry medium  20 48 48 48 48	
-	3 - 4 - 5 -	screen 10/20 Filter sand		FILL	Moderate brown, dry, medium dense, fine to medium grained, with fractured fine to coarse gravel.  POORLY GRADED SAND WITH GRAVEL AND SILT. Moderate brown with flecks of red,  15 10 8 1.0	
START_AVERY1.GPJ E&EPORTLAND.GDT 7/31/07	6 <del>-</del> 7 -			FILL	black, and tan, dry, dense, fine 6.0 grained sand with lesser coarse sand. Fractured fine to coarse gravel with moist silt.  POORLY GRADED SAND WITH GRAVEL AND SILT.  5 0.5	
VERY 1.GPJ E&EPC	90 8- 9-				8.0 Moderate brown, dry to moist (at 7.5'), dense, fine to medium grained sand, with fractured fine to medium gravel.  Not Sampled	
	10 - 11 - 12 -				Not Sampled	
ENESTART WELL LOGB (AVERY)	85 13 - 14 -				Not Sampled	



PROJECT NAME: Avery Landing WELL NO.: EMW 01

Page 1 of 1

DATE DRILLED: 4/17/2007 PROJ LOGGED BY: Jeff Fowlow PROJECT CHECKED BY: S. Hall

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: Arbitrary Site Datum
LOCATION: Avery, ID

PROJECT NAME: Avery Landing PROJECT LOCATION: Avery, Idaho

SSID #: 10ZZ

EPA TASK MANAGER: Earl Liverman
TDD #: 07-03-0004
START PROJECT #: 002233.0193.01SF
START PROJ MGR: Steve Hall

ELEVATION DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHICLOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
Ground Surface Elevation 97.52 ft	Heavy Gauged Steel Protective Casing			ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
ENESTART WELL LOGB (AVERY) START AVERY (GP) E&EPORTLAND.GDT 7/31/07	2" PVC Cement Hydrated Bentonite Chips  10/20 Filter Sand  20-slot V-wire screen		FILL MLS	Not Sampled  WELL GRADED SAND WITH GRAVEL. Moderate brown, dry, medium dense, fine to coarse grained with fractured fine to coarse angular gravel and some silt. SANDY SILT(MLS) Black, moist, soft, slightly plastic silt with roots and casts.  8.0  SILTY SAND (SM) 9.0 Black, moist to wet, medium dense, fine to coarse grained sand. Not Sampled. Likely fractured rock.		15 15 9 12 1 1 4 5 3 3 12 17	1.3	Moderate hydrocarbon odor.  Hydrocarbon product. Sample blocked by cobble, low recovery.
EN E Ø TART W = - 16				16.0				



PROJECT NAME: Avery Landing WELL NO.: EMW 02

Page 1 of 1

DATE DRILLED: 4/17/2007 LOGGED BY: Jeff Fowlow CHECKED BY: S. Hall

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: Arbitrary Site Datum
LOCATION: Avery, ID

PROJECT NAME: Avery Landing PROJECT LOCATION: Avery, Idaho

SSID #: 10ZZ

EPA TASK MANAGER: Earl Liverman
TDD #: 07-03-0004
START PROJECT #: 002233.0193.01SF
START PROJ MGR: Steve Hall

ELEVATION	DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHICLOG	nscs		SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
Ground Surface Elevation	97.9 ft	Heavy Gauged Steel Protective Casing				ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
		2" PVC Cement				Not Sampled.				
_	2	Hydrated Bentonite Chips								
-95	3-				3.0	Not Sampled. Slough.		5		
-	4-						X	3 3	0.3	
-	5-				5.0	Not Sampled. Woody Debris	$\langle \cdot \rangle$	2		
-	6						X		0.3	
70/	7-	10/20 Filter								
E&E PORTL AND.GDT 7/31/07	8-	Sand							0.3	
Ē.G	9				9.0					
ATLAN	10	20-slot V-wire screen				Not Sampled.				
ME PO	4		.		11.0					
19 E	11 —					SANDY SILT WITH CLAY (MLS) Dark Brown, moist to wet, medium		3 5		
<u>₹</u>	12 -			MLS	13.0	stiff, slight plasticity, with fine sand and clay.		6 8	2.0	
= 85 1	13 —		X		13.0	SANDY GRAVEL WITH SILT		8		
START	14 —			GWS	45.0	(GWS) Dark gray, wet, medium dense, fine	X	10 13 13	1.2	
(ER Y)	15 —				15.0	to coarse, rounded gravel with coarse sand and some silt packed				
(A) = 1	16					tightly in pore spaces.  Not Sampled.				
)    -    - 	17 –					not campion.				
₩ -80 1	18 —									
ENESTART WELL LOGB (AVERY)	19 –		H		_1 <u>9</u> .0_					Refusal
	20									



PROJECT NAME: Avery Landing WELL NO.: EMW 03

DATE DRILLED: 4/17/2007
LOGGED BY: Jeff Fowlow
CHECKED BY: S. Hall
DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: Arbitrary Site Datum
LOCATION: Avery, ID

PROJECT NAME: Avery Landing PROJECT LOCATION: Avery, Idaho SSID #: 10ZZ

EPA TASK MANAGER: Earl Liverman
TDD #: 07-03-0004
START PROJECT #: 002233.0193.01SF
START PROJ MGR: Steve Hall

ELEVATION	DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
Ground Surface	Ele vation 98.14 ft	Heavy Gauged Steel Protective Casing			ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
	- 1 <del></del>	2" PVC Cement			Not Sampled.				
	2-	Hydrated Bentonite Chips							
	-	Omps			3.0				
-95 -	4		0000		SANDY GRAVEL (GPS) Coarse, fractured gravel with sand.		4 4 4 2	IR <.3	Difficult drilling. Lithology based on drill cuttings. Insufficient recovery.
/31/07	5 — 6 —	10/20 Filter Sand					4 5 8 12	IR <.3	Insufficient recovery.
START AVERY1.GPJ E&EPORTLAND.GDT 7/31/07	-	20-slot V-wire	0000	GPS			15 14 14 15	IR <.3	Insufficient recovery.
GPJ E&EPOR	9-						9 7 6 6	IR <.3	Insufficient recovery.
TART_AVERY1	11 — - 12 —	***************************************	0000		13.0		8 9 12 14	IR <.3	Sampler saturated: Hydocarbon sheen on groundwater. Insufficient recovery.
ENESTART WELL LOGB (AVERY) ST	14 <del>-</del>		00000	GPS	SANDY GRAVEL (GPS) Coarse, fractured gravel with sand.			IR <.3	Oily hydrocarbon product evident on downhole tools. Cuttings adhering to auger upon removal due to high silt content. Insufficient
IL LOG	15 <del>-</del>		0.1.		Not Sampled.				recovery.
TART WE	16 <del>-</del> 17 <del>-</del>				_17.0	-			
EN E	18_								

PROJECT NAME: Avery Landing WELL NO.: EMW 04

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DATE DRILLED: 4/18/2007 LOGGED BY: Jeff Fowlow

CHECKED BY: S. Hall DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: Arbitrary Site Datum
LOCATION: Avery, ID

PROJECT NAME: Avery Landing PROJECT LOCATION: Avery, Idaho

SSID #: 10ZZ

EPA TASK MANAGER: Earl Liverman
TDD #: 07-03-0004
START PROJECT #: 002233.0193.01SF
START PROJ MGR: Steve Hall

ELEVATION DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHICLOG	uscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
Ground Surface Elevation 100.02 ft	Heavy Gauged Steel Protective Casing			ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
- 1- - 2-	Cement 2" PVC Hydrated Bentonite Chips			Not Sampled.				
- 3- - 4- -95 5-				WELL GRADED SAND WITH GRAVEL (SWG) Moderate brown, dry, medium dense to dense, medium to very coarse sand with some silt and		4 6 14 16	0.7	
- 6-	10/20 Filter		SWG	fractured gravel. Increasing silt and moisture with depth.		5 6 5	0.8	
START AVERY1.GPJ E&EPORTLAND.GDT 7731.07  - 11 - 66 - 11 - 13 - 14 - 14 - 14 - 14 - 14 - 14	20-Slot V-wire screen			9.5 SANDY SILT (MLS)		6 2 3		
20 10 - 20 11 -		N	MLS	Black, moist, moderate plasticity, fine grained sand with silt and roots. Increasing rounded gravel with		6 7 4	1.5	Strong hydrocarbon odor
- 13 -				depth.  12.5  WELL GRADED SAND WITH		6 6 8	1.5	Strong hydrocarbon odor
			SWG	GRAVEL (SWG) Dark gray, wet, very dense, very fine to coarse grained sand with rounded  15.0 fine to coarse gravel and some silt.		17 22 30 38	1.2	Strong hydrocarbon odor and rainbow sheen with drops of black product
(AVERY) = 16 -				Not Sampled. Gravel in drill cuttings.				Difficult drilling
EN ESTART WELL LOG B (AVERY)  - 16 - 17 - 18 - 18 - 19 - 19 - 19 - 19 - 19 - 19								
EN EN TARI				1 <u>9.5</u>	-			Refusal



PROJECT NAME: Avery Landing WELL NO.: EMW 05

DATE DRILLED: 4/18/2007 LOGGED BY: Jeff Fowlow CHECKED BY: S. Hall

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: Arbitrary Site Datum
LOCATION: Avery, ID

PROJECT NAME: Avery Landing PROJECT LOCATION: Avery, Idaho

SSID #: 10ZZ

EPA TASK MANAGER: Earl Liverman
TDD #: 07-03-0004
START PROJECT #: 002233.0193.01SF
START PROJ MGR: Steve Hall

ELEVATION DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG USCS	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
Ground Surface Elevation 99.15 ft	Heavy Gauged Steel Protective Casing		ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
_ 1- _ 1- _ 2- 	Cement 2" PVC Hydrated Bentonite Chips		Not Sampled. Black glassy sand/gravel/cinder				
- 3- - 95 4- - 95 -			WELL GRADED SAND WITH GRAVEL (SWG) Moderate brown, dry, dense, medium to very coarse grained sand with fractured gravel and some silt.		8 6 8 9	1.0	
START_AVERY 1.GPJ E&EPORTLAND.GDT 7/31/07	10/20 Filter	SWG	7.5		10 8 6 9	0.5	
AVERY 1.GPJ E&E	Sand  20-slot V-wire screen	MLS	SANDY SILT (MLS) Black, moist, soft, slight plasticity silt with fine sand and roots.		3 1 1 1	1.2	Hydrocarbon odor and sheen.
		SWG	WELL GRADED SAND WITH GRAVEL (SWG) Black, moist to wet, medium dense, fine to very coarse grained sand with degreesing silt and increasing		3 3 8 15	1.3	Hydrocarbon odor and oily liquid present.
EN ESTART WELL LOG B (AVERY)  - 11		GWS	with decreasing silt and increasing gravel content with depth.  WELL GRADED GRAVEL WITH SAND (GWS) Gray, wet, dense, fine to coarse grained gravel with medium to		13 15 28 36	IR	Sample stained black with oily liquid. Insufficient recovery.
EN 13 - 13		GWS	grained gravel with medium to coarse sand and some silt present.				Tooling.



PROJECT NAME: Avery Landing WELL NO.: EMW 06

ELEVATION	DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHICLOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
-85	_		T	GWS	WELL GRADED GRAVEL WITH SAND (GWS)  15.0 Gray, wet, dense fine to coarse	X		IR	Insufficient recovery.
-	15 —			GWS	grained gravel with medium to coarse sand and some silt and cobbles present. (continued) WELL GRADED GRAVEL WITH 17.0 SAND (GWS)			IR	Cuttings show oily liquid. Easier drilling. Insufficient recovery.
-	17 — - 18 —			GWS	Gray, wet, dense, fine to coarse grained gravel with medium to coarse sand and some silt.  Increased sand/fine gravel content	X		IR	Difficult drilling. Insufficient
-80	19 —				from last sample. WELL GRADED GRAVEL WITH				recovery.
-	20 —				SAND (GWS) Gray, wet, dense, fine to coarse grained gravel with medium to coarse sand. Increased coarse				
-	21 —				gravel from last sample.				
-	22 —								
-	23 —								
75	24 —								
-	25 —								
	26 —								
	27 —								
<u> </u>	28 —								
- 70	29 —								
0 (1 4 1	30 —								
10/15/1 109/15/1 109/15/1 109/15/15/15/15/15/15/15/15/15/15/15/15/15/	31 —								
- WE	32 —								
	33 —								

PROJECT NAME: Avery Landing WELL NO.: EMW 06

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DATE DRILLED: 4/18/2007 LOGGED BY: Jeff Fowlow CHECKED BY: S. Hall

CHECKED BY: S. Hall
DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: N/A

LOCATION: Avery, ID

PROJECT NAME: Avery Landing PROJECT LOCATION: Avery, Idaho

SSID #: 10ZZ

EPA TASK MANAGER: Earl Liverman TDD #: 07-03-0004 START PROJECT #: 002233.0193.01SF

START PROJ MGR: Steve Hall

FI EVATION	DEPTH (feet)	WELL COMPLETI DIAGRAM		GRAPHICLOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
	Ground Surface Elevation					ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
ENESTART WELL LOGB (AVERY) START_AVERY 3.GPJ E&EPORTLAND.GDT 7/31/07	1 2 3 3 4 4 5 6 6 7 8 9 10 11 12		Ž		FILL	Not Sampled.  WELL GRADED SAND WITH GRAVEL. Moderate brown, dry, dense, medium to very coarse grained sand with fractured gravel and some silt.		4 5 5 7 12 15 9 14	0.5	Hydrocarbon odor and sheen on groundwater
ENESTART WEL	13 14 15	- - -								



PROJECT NAME: Avery Landing WELL NO.: ESB 01

Page 1 of 1

DATE DRILLED: 4/18/2007 LOGGED BY: Jeff Fowlow CHECKED BY: S. Hall

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: N/A
LOCATION: Avery, ID

PROJECT NAME: Avery Landing PROJECT LOCATION: Avery, Idaho

SSID #: 10ZZ

EPA TASK MANAGER: Earl Liverman
TDD #: 07-03-0004
START PROJECT #: 002233.0193.01SF
START PROJ MGR: Steve Hall

ELEVATION DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
Ground Surface Elevation				ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
ENESTART WELL LOGB (AVERY) START_AVERY3.GPJ E&EPORTLAND.GDT 7/31/07  10			SPG	Not Sampled.  1.0  WELL GRADED GRAVELLY SAND (SPG)  Medium brown, dry, dense, medium to very coarse grained sand with gravel, cobbles and burnt wood fragments.			1.0	Began drilling at 2:05:00 PM. Auger was refused at the first location at a depth of 3.0 feet. Relocated 3.0' to the East. Auger was refused at 5.0'. A third attempt was refused at 3.0'

ecology and en

PROJECT NAME: Avery Landing WELL NO.: ESB 02

Page 1 of 1

DATE DRILLED: 4/18/2007 LOGGED BY: Jeff Fowlow CHECKED BY: S. Hall

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder DRILLING METHOD: Hollow Stem Auger VERTICAL DATUM: N/A

LOCATION: Avery, ID

PROJECT NAME: Avery Landing PROJECT LOCATION: Avery, Idaho

10ZZ SSID #:

EPA TASK MANAGER: Earl Liverman TDD #: 07-03-0004 START PROJECT #: 002233.0193.01SF 07-03-0004 START PROJ MGR: Steve Hall

	ELEVATION	DEPIR (leet)	WELL COMPLET DIAGRA	ION	GRAPHICLOG	nscs		SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
	Ground Surface Elevation							ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
	1	+						Not Sampled.				
707	3 4 5	- !					3.0	WELL GRADED SAND WITH GRAVEL. Medium brown, dry, very dense, medium to coarse grained sand with fractured gravel.			1.0	
PORTLAND.GDT 7/31	6	, , 				FILL				12 13 31 18  10 13	0.7	
START_AVERY 3.GPJ E&EPORTLAND.GDT 7/31/07	9	,-					10.0	POORLY GRADED SAND (SP) Tan to gray, dry to moist (wet at		20 Ref 12 13 16 18	IR <0.3'	Insufficient recovery.  Slight hydrocarbon odor. Insufficient recovery.
ENESTART WELL LOGB (AVERY) STA	11 12 13	-		Ā		SP	_13.0_	depths greater than 11.5' ), dense, medium grained sand with laminae of silt, increasing silt with depth.		1 2 5 9	IR <0.3'	Strong hydrocarbon odor. Product present. Insufficient recovery.
ENESTART WEL	14 15	+										



PROJECT NAME: Avery Landing WELL NO.: ESB 03

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DATE DRILLED: 4/18/2007 PROJECT NAME: Avery Landing LOGGED BY: Jeff Fowlow PROJECT LOCATION: Avery, Idaho CHECKED BY: S. Hall SSID #: 10ZZ

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder EPA TASK MANAGER: Earl Liverman
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: N/A START PROJECT #: 07-03-0014
002233.0193.01SF

LOCATION: Avery, ID START PROJ MGR: Steve Hall

ELEVATION	DEPTH (feet)	WELL COMPLETI DIAGRAN		GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
	O   Chound Surface   Chound Surface		Ž	0.000	SW SW-SM SWG	ground surface (gs)  Not Sampled.  3.0  WELL GRADED SAND (SW) Medium brown, dry, very dense, medium to very coarse grained sand with fractured medium grained gravel.  WELL GRADED SAND AND SILTY SAND (SW-SM) Gray, moist, fine grained sand with silty interbeds  WELL GRADED SAND WITH GRAVEL (SWG) Dry, very dense, medium to very coarse sand with fractured gravel  POORLY GRADED SAND (SP) Gray, dry, medium dense, medium grained sand. SILTY SAND (SM) Dark gray, stiff, slight plasticity silt with fine sand.	S	15 17 40 35 10 13 15 20	1.0	This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.  Hydrocarbon odor and sheen.  Hydrocarbon odor, no sheen.  Strong hydrocarbon odor.  Strong hydrocarbon odor, product present.



PROJECT NAME: Avery Landing WELL NO.: ESB 04

Page 1 of 2

PROJECT NAME: Avery Landing DATE DRILLED: 4/19/2007 LOGGED BY: Jeff Fowlow PROJECT LOCATION: Avery, Idaho CHECKED BY: S. Hall SSID #: 10ZZ

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder EPA TASK MANAGER: Earl Liverman DRILLING METHOD: Hollow Stem Auger VERTICAL DATUM: N/A TDD #: 07-03-0004 START PROJECT #: 002233.0193.01SF LOCATION: Avery, ID START PROJ MGR: Steve Hall

	ELEVATION	DEPTH (feet)	WELL COMPLET DIAGRA	ION	GRAPHICLOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
	Ground Surface	Ele vation					ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
							Not Sampled.				
		1-									
		2									
		-									
		3-			\$		WELL GRADED SAND WITH				
		4-			8		GRAVEL (SWG) Black to gray, moist, dense, medium	$  \bigvee  $	6 6 12	0.7	Hydrocarbon odor and
		-					to very coarse grained sand with fractured gravel.	$/\setminus$	12 22		sheen.
1/07		5				SWG	· ·		15		
)Т 7/3		6-						X	9	0.8	
ND.G								$/\setminus$	10		
RTLA		7-			\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		7.5		6		
&E PO		8-					SANDY SILT (MLS) Gray, moist, medium stiff, moderate	X	4 2 2	1.5	Strong hydrocarbon odor
PJ E		-				MLS	plasticity, silt with fine grained sand.	$/\setminus$	2		and slight sheen.
START_AVERY 3.GPJ E&EPORTLAND.GDT 7/31/07		9-					9.5		2		
T_AVE		10 —		$ ar{\Delta} $	Z	SW	WELL GRADED SAND (SW) Brown to black, wet, very dense,	X	2 5 13	1.7	
STAR		11			****	011	medium to very coarse sand.  11.0 Increasing gravel with depth.	$/\setminus$	16		
ERY)		"					WELL GRADED GRAVELLY SAND (SWG)	$\setminus$	17		Black oily liquid with strong hydrocarbon odor.
B (AV		12 —			· · · · · ·		Brown to black, wet, very dense,	X	15 25 50	1.5	
F LOG		13 —				SWG	medium to very coarse sand with gravel.		50		
WELL						0440		$\setminus A$	10		
ENESTART WELL LOGB (AVERY)		14 —						X	4 17	1.2	
ENE		15						$/ \setminus$	18		

PROJECT NAME: Avery Landing WELL NO.: ESB 05

ELEVATION DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	uscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
16 —	-		SWG	16.0 WELL GRADED GRAVELLY SAND		5 13 17	1.2	
17 —			SWG	WITH SILT (SWG) Light to dark gray, dry to moist, dense, fine to coarse silty sand with fine gravel and rounded cobbles.		15 8 18		Hydrocarbon odor with no product due to increased silt content.
18 — - 19 —			MLS	18.5  19.0 SANDY SILT (MLS)  Yellowish orange, moist, medium stiff, sandy silt.	$\bigcirc$	18 17 5	1.0	No hydrocarbon sheen or odor.
20 —				WELL GRADED SILTY SAND WITH GRAVEL (SW-SM) Light brown, dry to moist, dense,	X	15 19 22 17		No hydrocarbon sheen or odor.
22 —			SW-SM	fine to mostly coarse sand with rounded gravel and silt.		11 19 25 20		No hydrocarbon sheen or odor.
23 —						13 18		
24				25.0	$\bigwedge$	13 18 23 25	1.1	
26 —								
27 — 19 CON — — — — — — — — — — — — — — — — — — —								
28 —								
29 —								
30 —								
31 —								
32 —								
33 — S 33 —								
34 —								
26   27   27   27   27   27   27   27								
≝ Z ⊒								



PROJECT NAME: Avery Landing WELL NO.: ESB 05

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DATE DRILLED: 4/19/2007 LOGGED BY: Jeff Fowlow CHECKED BY: S. Hall

DRILLING CONTRACTOR: Environmental West Exploration, Inc. DRILLED BY: Randy Wilder

DRILLING METHOD: Hollow Stem Auger VERTICAL DATUM: N/A

LOCATION: Avery, ID

PROJECT NAME: Avery Landing PROJECT LOCATION: Avery, Idaho

SSID #: 10ZZ

EPA TASK MANAGER: Earl Liverman TDD #: 07-03-0004 START PROJECT #: 002233.0193.01SF

START PROJ MGR: Steve Hall

	WELL	(D			RVAL	တ	(L=	
ELEVATION DEPTH (feet)	COMPLETION DIAGRAM	GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
Ground Surface Elevation				ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
_				Not Sampled.				
1-								
3—				3.0				
4				SILTY SAND WITH GRAVEL. Light brown, dry, medium dense, fine sand to silt with fractured gravel and fragments of cinder and brick.		30 18 5 20	1.0	
ND.GDT 7/31/07			FILL		X	18 9 22 32	1.0	
START_AVERY3.GPJ E&EPORTLAND.GDT 7/31/07  11 01 6 8 1 9 1 1 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1				7.5  SANDY SILT (MLS) Olive gray, moist, medium stiff, moderate plasticity, sandy silt.		8 12 14 15	0.4	Hydocarbon odor.
START_AVERY3.G			MLS			7 7 5 6	1.2	
EN ESTART WELL LOGB (AVERY) \$  1	모	••••	SW	WELL GRADED SAND (SW) Dark gray, wet, medium dense, fine to coarse sand.		2 3 6 16	1.5	Strong hydrocarbon odor. Oily liquid present.
14 — 14 —								
EN E 0.15								



PROJECT NAME: Avery Landing WELL NO.: ESB 06

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DATE DRILLED: 4/19/2007 LOGGED BY: Jeff Fowlow CHECKED BY: S. Hall

DRILLING CONTRACTOR: Environmental West Exploration, Inc.

DRILLED BY: Randy Wilder
DRILLING METHOD: Hollow Stem Auger
VERTICAL DATUM: N/A
LOCATION: Avery, ID

wlow PROJECT LOCATION: Avery, Idaho
SSID #: 10ZZ
mental West Exploration, Inc.

EPA TASK MANAGER: Earl Liverman
TDD #: 07-03-0004
START PROJECT #: 002233.0193.01SF
START PROJ MGR: Steve Hall

PROJECT NAME: Avery Landing

	ELEVATION DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
	Ground Surface Elevation				ground surface (gs)				This log is part of the report prepared for the named project and should be read together with that report for complete interpretation. This summary applies only at the location of this boring and at the time of drilling. Subsurface conditions may differ at other locations and may change at this location with the passage of time. The data presented is a simplification of actual conditions encountered.
	- 1-				Not Sampled.				
	2—								
	3—		XXX		3.0 POORLY GRADED SAND.				
	4— -			FILL	Black, dry, medium dense, very coarse grained sand and cinder.		8 12 13 9	1.2	
ND.GDT 7/31/07	5 — - 6 — -				SANDY SILT (MLS) Olive gray, moist to dry, stiff, medium plasticity, fine sand and silt with occasional gravel.		8 20 12 10	1.1	Hydrocarbon odor.
PJ E&EPORTLA	7— - 8—			MLS	9.0		7 7 5 7	1.2	
START_AVERY 3.GI	9 — - 10 — -				*** Sampler blocked by wood Fragments ***		4 6 12 17	0.8	Hydrocarbon odor and sheen.
ENESTART WELL LOGB (AVERY) START_AVERY3.GPJ E&EPORTLAND.GDT 7/31/07	11 — - 12 — - 13 —						7 7 5 6	?	Black wood fragments possibly stained by hydrocarbons.
ENESTART WELL	13 — 14 — - 15			GW	14.0		9 12 13 12	0.8	Hydrocarbon odor and heavy sheen.



PROJECT NAME: Avery Landing WELL NO.: ESB 07

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ELEVATION DEPTH (feet)	WELL COMPLETION DIAGRAM	GRAPHIC LOG	nscs	SOIL/ROCK DESCRIPTION	SAMPLE INTERVAL	BLOW COUNTS	RECOVERY (FT)	COMMENTS
- 16 — - 17 —			GW	WELL GRADED GRAVEL (GW) Light to dark gray, moist to wet, medium dense, fine to coarse fractured gravel with silt and fine and. (continued)			1.0	Hydrocarbon odor and product present.
18 — - 19 —								
20 —								
22 —								
24 — 25 —								
26 — 27 — 28 —								
29 —								
31 —								
33 —								
35 —								

PROJECT NAME: Avery Landing WELL NO.: ESB 07

Appendix C
Chains of Custody

IDAOZ

Removal Program

START III, Seattle, WA
EPA Contract Number: EP-S7-06-02

CHAIN OF CUSTODY RECORD

Site #: 102Z Contact Name: Steven Hall Contact Phone: (206) 920-1739

No: 10ZZ-04/22/07-0002

Coolers
Lab: Laucks testing Laboratories, Inc.
Lab Phone: (206) 767-5060

07040101         EMM-tot SB 06         VOCs         Soil         416/2007         4 or Int. Vail         4 C         should be clean           07040101         EMM-tot SB 06         Moisture         Soil         416/2007         1 ozcjar         4 C         should be clean           07040102         EMM-tot SB 02         TPL-LDRO         Soil         416/2007         1 ozcjar         4 C         should be clean           07040103         EMM-tot SB 05         VOCs         Soil         417/2007         1 ozcjar         4 C         should be clean           07040103         EMM- tot SB 05         VOCs         Soil         417/2007         1 ozcjar         4 C         should be clean           07040103         EMM- tot SB 05         VOCs         Soil         417/2007         1 ozcjar         4 C         should be clean           07040105         EMM- tot SB 05         TPL-DRO         Soil         417/2007         1 ozcjar         4 C         scontaminated           07040106         EMM- tot SB 05         TPL-DRO         Soil         417/2007         1 ozcjar         4 C         scontaminated           07040106         EMM- tot SB 11         TPL-DRO         Soil         417/2007         1 ozcjar         4 C         scontaminated <th>Lab # Sample #</th> <th># 9 Q</th> <th>Location</th> <th>Analyses</th> <th>Matrix</th> <th>Collected</th> <th>Numb</th> <th>Numb Container Cont</th> <th>Preservative MS/MSD</th> <th>MS/MSD</th> <th>Samp_Concentra</th>	Lab # Sample #	# 9 Q	Location	Analyses	Matrix	Collected	Numb	Numb Container Cont	Preservative MS/MSD	MS/MSD	Samp_Concentra
EMW-01 SB 06         Moisture         Soil         4/16/2007         1         2 cz jar         4 C           EMW-01 SB 02         TAL Metals (ICP-MS)         Soil         4/16/2007         1         4 cz jar         4 C           EMW-01 SB 02         TPH-DRO         Soil         4/16/2007         1         8 cz jar         4 C           EMW-02 SB 05         VOCs         Soil         4/17/2007         1         2 cz jar         4 C           EMW-02 SB 05         TPH-DRO         Soil         4/17/2007         1         8 cz jar         4 C           EMW-02 SB 05         TPH-DRO         Soil         4/17/2007         1         8 cz jar         4 C           EMW-03 SB 11         TPH-DRO         Soil         4/17/2007         1         4 C         7           EMW-03 SB 11         TAL Metals (ICP-MS)         Soil         4/17/2007         1         4 cz jar         4 C           EMW-03 SB 11         VOCs         Soil         4/17/2007         1         2 cz jar         4 C         7           EMW-03 SB 13         TPH-DRO         Soil         4/17/2007         1         2 cz jar         4 C         7           EMW-04 SB 03         TAL Metals (ICP-MS)         Soil	0704	0101	EMW-01 SB 06	,/OCs	Soil	4/16/2007	4	40 rnL Viat	4°C		Should be clean
EMW-01 SB 02         TAL Metals (ICP-MS)         Soil         4/16/2007         1         4 oz jar         4 C           EMW-01 SB 02         IPH-DRO         Soil         4/17/2007         1         8 oz jar         4 C           EMW-02 SB 05         VOCs         Soil         4/17/2007         1         2 oz jar         4 C           EMW-02 SB 05         IPH-DRO         Soil         4/17/2007         1         2 oz jar         4 C           EMW-02 SB 05         IPH-DRO         Soil         4/17/2007         1         4 oz jar         4 C           EMW-02 SB 05         IPH-DRO         Soil         4/17/2007         1         4 oz jar         4 C           EMW-02 SB 05         IPH-DRO         Soil         4/17/2007         1         4 cz jar         4 C           EMW-03 SB 11         IPH-DRO         Soil         4/17/2007         1         4 cz jar         4 C           EMW-03 SB 11         IVOCs         Soil         4/17/2007         1         2 cz jar         4 C           EMW-03 SB 11         Woisture         Soil         4/17/2007         1         2 cz jar         4 C           EMW-03 SB 12         VOCs         Soil         4/17/2007         1         4 cz	0704	0101	EMW-01 SB 06	Moisture	Soil	4/16/2007	-	2 oz iar	4C		should be clean
EMNV-01 SB 02         TPH-DRO         Soil         4/17/2007         4 d0 mL Viel         4 C         4 C           BMNV-02 SB 05         V/OCs         Soil         4/17/2007         1 2 oz jar         4 C         1 4 C           EMNV-02 SB 05         TPH-DRO         Soil         4/17/2007         1 8 oz jar         4 C         1 4 C           EMNV-02 SB 05         TPH-DRO         Soil         4/17/2007         1 8 oz jar         4 C         1 4 C           EMNV-02 SB 05         TPH-DRO         Soil         4/17/2007         1 8 oz jar         4 C         1 4 C           EMNV-03 SB 11         TPH-DRO         Soil         4/17/2007         1 8 oz jar         4 C         Y           EMNV-03 SB 11         TPH-DRO         Soil         4/17/2007         1 2 oz jar         4 C         Y           EMNV-03 SB 11         Woisture         Soil         4/17/2007         1 2 oz jar         4 C         Y         0           EMNV-04 SB 03         TPH-DRO         Soil         4/17/2007         1 4 oz jar         4 C         Y         0           EMNV-04 SB 03         TAL Metals (ICP-MS)         Soil         4/17/2007         1 2 oz jar         4 C         Y         0           EMNV-05 SB 09 </td <td>0704</td> <td>0102</td> <td>EMM-01 SB 02</td> <td>als (IC</td> <td>Soil</td> <td>4/16/2007</td> <td>-</td> <td>4 nz iar</td> <td>40</td> <td></td> <td>chould be clear</td>	0704	0102	EMM-01 SB 02	als (IC	Soil	4/16/2007	-	4 nz iar	40		chould be clear
8         EMWV- 02 SB 05         VOCs         Soil         4/17/2007         4         4 or InL Viel         4 C           6         EMWV- 02 SB 05         Moisture         Soil         4/17/2007         1         2 oz jar         4 C         A           6         EMWV- 02 SB 05         TPAL Metals (ICP-MS)         Soil         4/17/2007         1         8 oz jar         4 C         A           6         EMWV- 02 SB 05         TPAL Metals (ICP-MS)         Soil         4/17/2007         1         4 oz jar         4 C         A           6         EMWV- 03 SB 11         TPH-DRO         Soil         4/17/2007         1         4 cz jar         4 C         Y           6         EMWV- 03 SB 11         Woisture         Soil         4/17/2007         1         4 cz jar         4 C         Y         A           6         EMWV- 03 SB 11         Woisture         Soil         4/17/2007         1         2 cz jar         4 C         Y         A           6         EMWV- 04 SB 03         TPH-DRO         Soil         4/17/2007         1         2 cz jar         4 C         Y         A           6         EMW- 04 SB 03         TAL Metals (ICP-MS)         Soil         4/17/2007 <td>0704⊦</td> <td>0102</td> <td>EMNY-01 SB 02</td> <td>TPH-DRO</td> <td>Soil</td> <td>4/16/2007</td> <td>-</td> <td>8 oz lar</td> <td>4 C</td> <td>A.J</td> <td>should be clean</td>	0704⊦	0102	EMNY-01 SB 02	TPH-DRO	Soil	4/16/2007	-	8 oz lar	4 C	A.J	should be clean
BEMWL- 02 SB 05         Mioisture         Soil         4/17/2007         1         2 oz jar         4 C           EMWL- 02 SB 05         TPH-DRO         Soil         4/17/2007         1         8 oz jar         4 C         7           EMWL- 02 SB 05         TPH-DRO         Soil         4/17/2007         1         8 oz jar         4 C         7           EMWL- 03 SB 11         TPH-DRO         Soil         4/17/2007         1         8 oz jar         4 C         7           EMWL- 03 SB 11         TPH-DRO         Soil         4/17/2007         1         4 cz jar         4 C         7           EMWL- 03 SB 11         Moisture         Soil         4/17/2007         1         2 oz jar         4 C         7           EMWL- 03 SB 11         Moisture         Soil         4/17/2007         1         2 oz jar         4 C         7           EMWL- 03 SB 13         Moisture         Soil         4/17/2007         1         4 c         7         6           EMWL- 04 SB 03         TAL Metals (ICP-MS)         Soil         4/17/2007         4         4 C         7         6           EMWL- 05 SB 09         Woisture         Soil         4/18/2007         1         2 oz jar	0704	0103	EMNY- 02 SB 05	VOCs	Soil	4/17/2007	4	40 ml. Vial	4 C	-	Shother be clean
EMW- 02 SB 05         TPH-DRO         Soil         4/17/2007         1         8 oz jar         4 C           EMW- 02 SB 05         TAL Metals (ICP-MS)         Soil         4/17/2007         1         4 oz jar         4 C           EMW- 03 SB 11         TPH-DRO         Soil         4/17/2007         1         4 oz jar         4 C         γ           EMW- 03 SB 11         VOCs         Soil         4/17/2007         1         4 oz jar         4 C         γ           EMW- 03 SB 11         Moisture         Soil         4/17/2007         1         2 oz jar         4 C         γ           EMW- 04 SB 03         TPH-DRO         Soil         4/17/2007         1         4 oz jar         4 C         γ         γ           EMW- 04 SB 03         TAL Metals (ICP-MS)         Soil         4/17/2007         1         4 c z jar         4 C         γ         γ           EMW- 05 SB 09         VOCs         Soil         4/17/2007         1         2 oz jar         4 C         γ         γ           EMW- 05 SB 09         VOCs         Soil         4/18/2007         1         2 oz jar         4 C         γ           EMW- 05 SB 09         VOCs         Soil         4/18/2007         1 </td <td>0704</td> <td>0103</td> <td>EI/MV- 02 SB 05</td> <td>Moisture</td> <td>Soil</td> <td>4/17/2007</td> <td>+</td> <td>2 oz. iar</td> <td>4 C</td> <td></td> <td>Contaminated</td>	0704	0103	EI/MV- 02 SB 05	Moisture	Soil	4/17/2007	+	2 oz. iar	4 C		Contaminated
EMW- 02 SB 05         TAL Metals (ICP-MS)         Soil         4/17/2007         1         4 cz jar         4 C           EMW- 03 SB 11         TPH-DRO         Soil         4/17/2007         1         4 cz jar         4 C         Y           EMW- 03 SB 11         TAL Metals (ICP-MS)         Soil         4/17/2007         1         4 cz jar         4 C         Y           EMW- 03 SB 11         Moisture         Soil         4/17/2007         1         2 cz jar         4 C         Y           EMW- 03 SB 11         Moisture         Soil         4/17/2007         1         2 cz jar         4 C         Y           EMW- 04 SB 03         TAL Metals (ICP-MS)         Soil         4/17/2007         1         2 cz jar         4 C         Y           EMW- 05 SB 09         VOCs         Soil         4/17/2007         1         2 cz jar         4 C         Y         4           EMW- 05 SB 09         Woisture         Soil         4/18/2007         4         4 U mL Vial         4 C         Y         4           EMW- 05 SB 09         Woisture         Soil         4/18/2007         4         4 U mL Vial         4 C         C         Y           EMW- 05 SB 09         TAL Metals (ICP-MS)	0704	0105	EMW- 02 SB 05	TPH-DRO	Soil	4/17/2007	-	8 02 iar	. 4 . C		Confeminated
EMW- 03 SB 11         TPH-DRO         Soil         4/17/2007         1         8 cz jar         4 C           EMW- 03 SB 11         TAL Metals (ICP-MS)         Soil         4/17/2007         1         4 cz jar         4 C         Y           EMW- 03 SB 11         VOCs         Soil         4/17/2007         1         2 cz jar         4 C         Y         0           EMW- 03 SB 11         Moisture         Soil         4/17/2007         1         8 cz jar         4 C         Y         0           EMW- 04 SB 03         TPH-DRO         Soil         4/17/2007         1         8 cz jar         4 C         Y         0           EMW- 04 SB 03         TAL Metals (ICP-MS)         Soil         4/17/2007         1         2 cz jar         4 C         Y         0           EMW- 05 SB 09         VOCs         Soil         4/18/2007         4 do mL Viel         4 C         Y         0           EMW- 05 SB 09         Moisture         Soil         4/18/2007         1         2 cz jar         4 C         0           EMW- 05 SB 09         TPH-DRO         Soil         4/18/2007         1         4 c         0         0           EMW- 05 SB 09         TPH-DRO         Soil	0704	ୀ05	EMW- 02 SB 05	TAL Metals (ICP-MS)	Soil	4/17/2007	-	4 oz iar	4 C		Contaminated
EMW- 03 SB 11         TAL Metals (ICP-MS)         Soil         4/17/2007         1         4 cz jar         4 C         Y           EMW- 03 SB 11         VOCs         Soil         4/17/2007         1         2 cz jar         4 C         Y           EMW- 03 SB 11         Moisture         Soil         4/17/2007         1         2 cz jar         4 C         Y           EMW- 04 SB 03         TPI-LDRO         Soil         4/17/2007         1         4 cz jar         4 C         Y           EMW- 04 SB 03         TAL Metals (ICP-MS)         Soil         4/17/2007         1         2 cz jar         4 C         Y           EMW- 05 SB 09         VOCs         Soil         4/17/2007         4 d0 mL Vial         4 C         Y           EMW- 05 SB 09         Moisture         Soil         4/18/2007         1         2 cz jar         4 C         Y           EMW- 05 SB 09         TPH-DRO         Soil         4/18/2007         1         2 cz jar         4 C         Y           EMW- 05 SB 09         TPH-DRO         Soil         4/18/2007         1         8 cz jar         4 C         P           EMW- 05 SB 09         TPH-DRO         Soil         4/18/2007         1         4 c	0704	0106	EMW- 03 SB 11	TPH-DRO	Soil	4/17/2007	-	8 oz iar	4 C		
EMW- 03 SB 11         VOCs         Soil         4/17/2007         9         40 mL Viel         4 C         Y           EMW- 03 SB 11         Moisture         Soil         4/17/2007         1         2 oz jar         4 C         Y           EMW- 04 SB 03         TPIDRO         Soil         4/17/2007         1         8 oz jar         4 C         Y           EMW- 04 SB 03         TAL Metals (ICP-MS)         Soil         4/17/2007         1         2 oz jar         4 C         Y           EMW- 05 SB 09         VOCs         Soil         4/18/2007         4         4 C mL Viel         4 C         Y           EMW- 05 SB 09         Moisture         Soil         4/18/2007         1         2 oz jar         4 C         Y           EMW- 05 SB 09         TPH-DRO         Soil         4/18/2007         1         2 oz jar         4 C         Y           EMW- 05 SB 09         TPH-DRO         Soil         4/18/2007         1         2 oz jar         4 C         Y           EMW- 05 SB 09         TPH-DRO         Soil         4/18/2007         1         4 C         C         Y	07041.	0,106	EMW- 03 SB 11	TAL Metals (ICP-MS)	Soli	4/17/2007	-	4 oz iar	0 4 C	- Annual Control of the Control of t	
EMW- 03 SB 11         Moisture         Soil         4/17/2007         1         2 cz jar         4 C         Y           EMW- 04 SB 03         TPI-DRO         Soil         4/17/2007         1         8 cz jar         4 C         Y           EMW- 04 SB 03         TAL Metals (ICP-MS)         Soil         4/17/2007         1         2 cz jar         4 C         Y           EMW- 04 SB 03         VOCs         Soil         4/18/2007         4         4 G mL Viel         4 C         Y           EMW- 05 SB 09         Woisture         Soil         4/18/2007         1         2 cz jar         4 C         Y           EMW- 05 SB 09         Moisture         Soil         4/18/2007         1         2 cz jar         4 C         Y           EMW- 05 SB 09         TPH-DRO         Soil         4/18/2007         1         2 cz jar         4 C         Y           EMW- 05 SB 09         TPH-DRO         Soil         4/18/2007         1         4 cz jar         4 C         Y	0704	2107	EMN/- 03 SB 11	VOCs	Soil	4/17/2007		40 ml. Viel	) 4 C	>	
EMWL 04 SB 03         TPH-DRO         Soil         4/17/2007         1         8 oz jar         4 C         Y           EMWL 04 SB 03         TAL Metals (ICP-MS)         Soil         4/17/2007         1         2 oz jar         4 C         Y           EMWL 05 SB 09         VOCs         Soil         4/18/2007         4         40 mL Vial         4 C         Y           EMWL 05 SB 09         Moisture         Soil         4/18/2007         1         2 oz jar         4 C         Y           EMWL 05 SB 09         Moisture         Soil         4/18/2007         1         2 oz jar         4 C         Y           EMWL 05 SB 09         TPH-DRO         Soil         4/18/2007         1         8 oz jar         4 C         Y           EMWL 05 SB 09         TPH-DRO         Soil         4/18/2007         1         4 cz jar         4 C         Y	07041	2107	EMVV- 03 SB 11	Moisture	Soil	4/17/2007	-	2 oz iar	7	•	
EMAN- 04 SB 03         TAL Metals (ICP-MS)         Soil         4/17/20077         1         4 cz jar         4 C         Y           EMAN- 04 SB 03         TAL Metals (ICP-MS)         Soil         4/17/2007         1         2 cz jar         4 C         Y           EMAN- 05 SB 09         Moisture         Soil         4/18/2007         1         2 cz jar         4 C         P           EMAN- 05 SB 09         TPH-DRO         Soil         4/18/2007         1         2 cz jar         4 C         P           EMAV- 05 SB 09         TPH-DRO         Soil         4/18/2007         1         8 cz jar         4 C         P           EMV- 05 SB 09         TAL Metals (ICP-MS)         Soil         4/18/2007         1         4 cz jar         4 C         P	0704	)1 <b>0</b> 8	EMAN- 04 SB 03	TPH-DRO	Soil	4/17/2007	-	8 oz jar	) <del>4</del> C	>	Contaminated
EMWI- 04 SB 03         TAL Metals (ICP-MS)         Soil         4/17/2007         1 2 oz jar         4 C         Y           EMWI- 05 SB 09         VOCs         Soil         4/18/2007         4 d0 mL Viel         4 C         6           EMWI- 05 SB 09         Moisture         Soil         4/18/2007         1 2 oz jar         4 C         6           EMWI- 05 SB 09         TPH-DRO         Soil         4/18/2007         1 8 oz jar         4 C         6           EMWI- 05 SB 09         TAL Metals (ICP-MS)         Soil         4/18/2007         1 4 oz jar         4 C         6	07041	5108	EMW- 04 SB 03	TAL Metals (ICP-MS)	Soil	4/17/2007	4	4 (12 jar	4 C	- >	contaminated
EMW- 05 SB 09         VOCs         Soil         4/18/2007         4 d rnL Viel         4 C           EMW- 05 SB 09         Moisture         Soil         4/18/2007         1 Z rz jar         4 C           EMW- 05 SB 09         TPH-DRO         Soil         4/18/2007         1 8 rz jar         4 C           EMW- 05 SB 09         TAL Metals (ICP-MS)         Soil         4/18/2007         1 4 rz jar         4 C	07040	0108	EMV/- 04 SB 03	TAL Metals (ICP-IMS)	Soil	4/17/2007	-	2 oz iar	4 C		Conteminated
EMW- 05 SB 09         Moisture         Soil         4/18/2007         1 2 nz jar         4 C           EMW- 05 SB 09         TPH-DRO         Soil         4/18/2007         1 8 nz jar         4 C           EMW- 05 SB 09         TAL Metals (ICP-MS)         Soil         4/18/2007         1 4 nz jar         4 C	07040	1109	EMV/- 05 SB 09	VOCs	Soil	4/18/2007		40 mL Vial	0 4 C	-	Contaminated
EMNV- 05 SB 09         TPH-DRO         Soil         4/18/2007         1 8 uz jar         4 C           EMNV- 05 SB 09         TAL Metals (ICP-MS)         Soil         4/18/2007         1 4 uz jar         4 C	07040	0110	EM/V- 05 SB 09	Moisture	Soil	4/18/2007	-	2 02 lar	4 C		contaminated
EMM- 05 SB 09 TAL Metats (ICP-MS) Soil 4/18/2007 1 4 oz jar 4 C	07040	7110	EMNV- 05 SB 09	TPH-DRO	Soil	4/18/2007	-	8 oz jar	4 C		contaminated
	07040	3110	EMIV- 05 SB 09	TAL Metals (ICP-MS)	Soil	4/18/2007	T	4 oz jar	0		conferminated

Special Instructions: Rush TAT (Friday, April 27) for 07040132, 07040133, 07040134, and 07040143 (all analyses)

Note that many samples are contaminated with TPH, as indicated.

STD TA" for remaining samples.

Stage 2 (SEDD) and CLP-eqivalent deliverable.

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

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Removal Program

START III, Seattle, WA

EPA Contract Number: EP-S7-06-02

CHAIN OF CUSTODY RECORD

Site #: 10ZZ

Contact Name. Steven Hall Contact Phone: (206) 920-1739

No: 10ZZ-04/22/07-0002

Lab: Laucks testing Laboratories, Inc. Lab Phone: (208) 767-5060

<ul><li>D. Laucks testing Laboratones, Inc.</li></ul>

₽ Fap#	Sample #	Location	Analyses	Matrix	Collected	Numb	Numb Container Cont	Preservative	MS/MSD	Samp_Concentra tion
-78 <sub>05</sub> -	07040111	R8-01	TAL Metals (ICP-MS)	Water	4/18/2007	-	500 mL poly	4 C and HNO3		should be clean
	07040111	R8-01	TPH-DRO	Water	4/18/2007	2	1 liter	4 C and HCI		should be clean
	07040111	R8-01	\v0Cs	Water	4/18/2007	m	3 40 mL Vial	4 C and HCI		should be clean
	07040112	EMW- 06 SB 07	1/OCs	Soil	4/18/2007	4	4 40 mL Vial	4 C		contaminated
:	07040112	EMW- 06 SB 07	Moisture	Soil	4/18/2007		2 oz jar	4 C		contaminated
	07040113	EMNV- 06 SB 07	TAL Metals (ICP-MS)	Soil	4/18/2007	-	4 oz jar	4 C		contaminated
X	07040114	EMW- 06 SB 09	TPH-DRO	Soil	4/18/2007	-	8 oz jar	4 C		contaminated
્ર	07040115	ESE-01 SB 07	VOCs	Soil	4/18/2007	4	40 mL Vial	4 C	PROPERTY OF THE PROPERTY OF TH	contaminated
•	07040115	ESE-01 SB 07	Moisture	Soil	4/18/2007	-	2 oz jar	4 C		contaminated
70	07040116	ESE-01 SB 07	TAL Metals (ICP-MS)	Soi	4/18/2007	-	4 oz jar	4 C		contaminated
	07040116	ESE-01 SB 07	TPH-DRO	Soil	4/18/2007	-	4 oz jar	4 C		contaminated
2	07040117	ESE-02 SB 03	TAL Metals (ICP-MS)	Soil	4/18/2007	<del>-</del>	4 02 jar	4 C		contaminated
Freezen.	07040118	ESE-03 SB 09	√OCs	Soil	4/18/2007	4	40 mL Vial	4 C		
4	07040118	ESE-03 SB 09	Moisture	Soil	4/18/2007	-	2 oz jar	4 C	- A CANADA CANAD	
رسيد. (محمد	07040119	ESE-03 SB 11	TAL Metals (ICP-MS)	Soil	4/18/2007	-	4 02 Jar	4 C		
	07040119	ESB-03 SB 11	TPH-DRO	Soil	4/18/2007	-	8 oz jar	4 C		
	07040120	ESE-04 SB 03	TPH-DRO	Soil	4/18/2007	-	8 oz jar	4 C		contaminated
,	07040120	ESB-04 SB 03	TAL Metals (ICP-MS)	Soil	4/18/2007	-	4 oz jar	4 C		contaminated

Special Instructions: Rush TAT (Friday, April 27) for 07/340132, 07040133, 07/040134, and 07/040143 (all analyses). Note that many samples are contanninated with TPH, as indicated.

STD TA<sup>--</sup> for remaining samples.

Stage 2 SEDD and CLP-eqivalent deliverable.

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CHAIN OF CUSTODY #

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Removal Program
START III, Seattle, WA

START III, Seattle, WA
EPA Contract Number: EP-\$7-05-02

# CHAIN OF CUSTODY RECORD

Site #: 10ZZ

Contact Name: Steven Hall Contact Phone: (206) 920-1739

No: 10ZZ-04/22/07-0002

Cooler#: 5 coolers

Lab: Laucks testing Laboratories, Inc. Lab Phone: (205) 767-5060

#	Sample #	Location	Analyses	Matrix	Collected	Numb	Numb Container Cont	Preservative MS/MSD	MS/MSD	Samp_Concentra tion
≫	07040121	ESE-04 SB 07	VOCs	Soil	4/18/2007	4	40 mL Vial	4 C		contaminated
	07040121	ESE-04 SB 07	Moisture	Soil	4/18/2007		2 oz jar	4 C	And the state of t	contaminated
<sub>ጥ</sub> ~ጌ	07040122	ESB-04 SB 07	TAL Metals (ICP-MS)	Soil	4/18/2007	-	4 oz jar	4 C	The state of the s	contaminated
	07040122	ESE-04 SB 07	TPH-DRO	Sor	4/18/2007	-	8 oz jar	4 C		contaminated
	07040123	ESE-05 SB 09	VOCs	Soil	4/19/2007	4	40 mL Vial	4 C		contaminated
	07040123	ESE-05 SB 09	Moisture	Soil	4/19/2007	-	2 oz jar	4 C		contaminated
	07040124	ESE-05 SB 15	TPH-DRO	Soil	4/19/2007		8 oz jar	4 C		contaminated
	07040124	ESE-05 SB 15	TAL Metals (ICP-MS)	Sol	4/19/2007	-	4 oz. jar	A4 ()	W 60000	contaminated
	07040126	ESE-06 SB 09	VOCs	Soil	4/19/2007	4	40 mL Vial	4 C		confaminated
	07040126	ESE-06 SB 09	Moisture	Soil	4/19/2007	-	2 oz jar	4 C		contaminated
	07040127	ESE-06 SB 11	TAL Metals (ICP-MS)	Soil	4/19/2007		4 oz jar	4 C		contaminated
	07040127	ESE-06 SB 11	TPH-DRO	Soil	4/19/2007	-	8 oz jar	4 C		contaminated
	07040128	ESB-07 SB 07	VOCs	Soi	4/19/2007	4	40 mL Vial	4 C		contaminated
	07040128	ESE-07 SB 07	Moisture	Soil	4/19/2007	-	2 oz jar	40		confaminated
	07040129	ESE-07 SB 13	TAL Metals (ICP-MS)	Soil	4/19/2007	-	4 oz jar	4 0	A	confaminated
	07040129	ESE-07 SB 13	'rPH-DRO	Sol	4/19/2007	•	8 oz jar	4 C		contaminated
San	07040130	13-01	VOCs	Water	4/20/2007	2	40 mL Vial	4 C	- A CONTROL OF THE CO	
-	07040131	HC-4	TAL Metals (ICP-MS)	Waste	4/20/2007	*-	2 oz jar	None		product
	07040131	<b>4</b> -0 <b>7</b>	TPH-DRO	Waste	4/20/2007		2 0z. jar	None	- And and the second se	product

Special Instructions: Rush TAT (Friday, April 27) for 07040132, 07040133, 07040134, and 07040143 (all analyses)

Note that many samples are contaminated with TPH, as indicated.

STD TAT for remaining samples, Stage 2 SEDD and CLP-eqivalent deliverable.

SAMPLES TRANSFIERRED FROM

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EPA Contract Number: EP-S7-06-02 START III, Seattle, WA Removal Program

CHAIN OF CUSTODY RECORD

Site #: 10ZZ

Contact Phone: (206) 920-1739 Contact Name: Steven Hall

Cooler #: 5 coolers No: 10ZZ-04/22/07-0002

Lab: Laucks testing Laboratories, Inc. Lab Phone: (206) 767-5060

tab#	Sample #	Location	. તેnalyses	Matrix	Collected	Numb	Numb Container Cont	Preservative MS/MSD	MS/MSD	Samp_Concentra tion
<b>/</b> ,	07040135	EMW/-04	TAL Metals (ICP-MS)	Ground Water	4/21/2007	m	500 mL HDPE	4 C and HNO3	<b> </b>	should be clean
1	07040135	EMW/-01	TPH-DRO	Ground Water	4/21/2007	9	1 liter amber	4 C and HC	<b>&gt;</b>	should be clean
C	07040136	EMW/-02	,/OCs	Ground Water	4/21/2007	e	40 ml VOA	4 C and HCI		contaminated
	07040136	EMW-02	TAL Metals (ICP-MS)	Ground Water	4/21/2007	-	500 mL HDPE	4 C and HNO3		contaminated
Programme and Address	07040136	EMN/-02	TPH-DRO	Ground Water	4/21/2007	2	1 Iter amber	4 C and HCI		contaminated
u)	07040137	EMW-03	,40cs	Ground Water	4/21/2007	ю	3 40 ml VOA	4 C and HCl		contaminated
	07040137	EMV/-03	TAL Metais (ICP-MS)	Ground Water	4/21/2007		500 mL HDPE	4 C and HNO3		contaminated
	07040137	EIMVI-03	TPH-DRO	Ground Water	4/21/2007	2	1 liter amber	4 C and HCI		contaminated
	07041)138	EMV/-04	VOCs	Ground Water	4/21/2007	ო	3 40 ml VOA	4 C and HCI		contaminated
	07040138	EMVV-04	TAL Metals (ICP-MS)	Ground Water	4/21/2007	-	1 500 mL HDPE	4 C and HNO3		contaminated
	07040138	EIMW-04	TPH-DRO	Ground Water	4/21/2007	7	1 Iteramber	4 C and HCI	777777777777777777777777777777777777777	contaminated

Special Instructions: Rush TAT (Friday, April 27) for 07040132, 07040133, 07040134, and 07040143 (all analyses) Note that many samples are contaminated with TPH, as indicated.

STD TAT for remaining samples.

Stage 2 SEDD and CLP-eqivalent deliverable.

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

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Removal Program

START III, Seattle, WA EPA Contract Number: EP-S7-06-02

CHAIN OF CUSTODY RECORD

Site #: 1022

Contact Name: Steven Half Contact Phone; (203) 920-1739

No: 10ZZ-04/22/07-0002

Cooler #: 5 coolers

Lab: Laucks testing Laboratories, Inc. Lab Phone: (206) 767-5060

Samp\_Concentra conterninated contaminated contaminated confaminated contaminated contaminated Preservative MS/MSD 4 C and HC 4 C and HCI 4 C and HCI 4 C and HCI 4 C and HCI 4 C and HC 4 C and HCI 4 C and HNO3 4 C and HNO3 4 C and HNO3 4 C and HNO3 1 500 ml, HDPE 1 500 mL HDPE 1 500 mL HDPE 1 500 mL HDPE 2 1 liter arriber 2 1 liter amber 2 1 liter arriber 3 40 ml VOA 3 40 ml VOA 3 40 ml VCA 3 40 ml VOA Numb Container Collected 4/21/2007 4/21/2007 4/21/2007 4/21/2007 4/21/2007 4/21/2007 4/21/2007 4/21/2007 4/21/2007 4/21/2007 4/21/2007 Ground Walter Ground Water Matrix TAL Metals (ICP-ME) TAL Metals (ICP-IMS) (IAL Metals (ICP-MS) FAL Metals (ICP-MS) TPH-DRO PH-DRO IPH-DRO Analyses VOCs %OCs /OCs SOO/ EMW-05 EMWV-05 EMV-06 Location EMN/-05 EN/W/V-06 EMW-06 MW.5 MW-5 宁 불 Ş Sample # 07040139 07040139 07040139 07041)140 07040140 07040140 07040142 07040142 07040141 07040141 07040141 Lab#  $\sigma$ (0

Special Instructions: Rush TAT (Friday, April 27) for 07040132, 07040133, 07040134, and 07040143 (all analyses) Note that many samples are contaminated with TPH, as indicated.

STD TAT for remaining samples.

Stage 2 SEDD and CLP-eqivalent deliverable.

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Removal Program

START III, Seattle, WA

EPA Contract Number: EP-S7-06-02

CHAIN OF CUSTODY RECORD

Contact Phone: (206) 920-1739 Contact Name: Steven Hall

No: 10ZZ-04/22/07-0001

Coaler #: 6 coolers Lab: STL-Seattle

Lab Phone: (253) 922-2310

Lab# Sample#	Location	Analyses	Matrix	Collected	Numb Cont	Container	Preservative	MS/MSD	Samp_Concentra tion
07040102	2 EMW-01 SB 02	Mercury Low Level (Hold)	Soil	4/16/2007	-	4 oz jar	4 C		should be clean
07040102	2 EMM-01 SB 02	PCBs (low level), SVOC	Soil	4/16/2007	-	8 oz jar	4 C		should be clean
07040104	# EIMW/- 02 SB 07	PCBs (low level), SVOC	Soil	4/17/2007	-	8 oz jar	4 C		contaminated
07040105	5 EMW- 02 SB 05	Mercury Low Level (Hold)	Soil	4/17/2007	***	4 oz jar	4 C		contaminated
07040106	S EMW/- 03 SB 11	PCBs (low level), SVOC	Soil	4/17/2007	-	8 oz jar	4 C		
07040106	S EMW/- 03 SB 11	Mercury Low Level (Hold)	Soil	4/17/2007	*	4 oz jar	4 0		
07040108	3 EMW- 04 SB 03	Mercury Low Level (Hold)	Soil	4/17/2007	-	4 oz jar	4 C		contaminated
07040108	3 EMW/- 04 SB 03	PCBs (low level), SVOC	Soil	4/17/2007	2	8 oz jar	4 C	>	contaminated
07040110	D EMW- 05 SB 09	PCBs (low level), SVOC	Soil	4/18/2007	-	8 oz jar	4 C		contaminated
07040110	EMW- 05 SB 09	Mercury Low Level (Hold)	Soil	4/18/2007	-	4 oz jar	4 C		contaminated
07040111	RB-01	PCBs (low level)	Water	4/18/2007	2	2 1 liter	4 C		should be clean
07040111	RB-01	SVOC (low level)	Water	4/18/2007	2	2 1 liter	4 C		should be clean
07040113	3 EMW- 06 SB 07	Mercury Low Level (Hold)	Soil	4/18/2007	-	4 oz jar	4 C		contaminated
07040114	t EMW- 06 SB 09	PCBs (low level), SVOC	Soil	4/18/2007	-	8 oz jar	4 C		contaminated
07040116	S ESE-01 SB 07	PCBs (low level), SVOC	Soil	4/18/2007	-	8 oz jar	4 C		contaminated
07040116	3 ESE-01 SB 07	Mercury Low Level (Hold)	Soil	4/18/2007	-	4 oz jar	4 C		contaminated
07040117	ESE-02 SB 03	PCBs (low level), SV/OC	Soil	4/18/2007	-	8 oz jar	4 C		contaminated
07040119	ESB-03 SB 11	Mercury Low Level (Hold)	Soil	4/18/2007	-	4 oz jar	4 C		
07040119	ESE-03 SB 11	PCBs (low level), SVOC	Soil	4/18/2007	-	8 oz jar	4 C		

Special Instructions: Rush TAT (Friday, April 27) for 07040132, 07040133, 07040134, and 07040143 (all analyses).

Asking for low level PCBs (soil and water) and SVOCs (waters only), but note that many of these samples are contaminated with TPH, as indicated.

SAMPLES TRANSFERRED FROM

Please hold low level mercury po

STD TA" for remaining samples

Stage 2 (SEDD) and CLP-equival

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Page 2 of 5

Removal Program

START III, Seattle, WA

EPA Contract Number: EP-S7-06-02

CHAIN OF CUSTODY RECORD

Site #: 10ZZ

Contact Name: Steven Hall Contact Phone: (206) 920-1739

No: 10ZZ-04/22/07-0001

Cooler #: 6 coolers Lab: STL-Seattle Lab Phone: (253) 922-2310

Lab# Sample#	le#	Location	/A.nalyses	Matrix	Collected	Numb Cont	Numb Container Cont	Preservative MS/MSD	MS/MSD	Samp_Concentration
07040120	120	ESE-04 SB 03	Mercury Low Level (Hold)	Soil	4/18/2007	_	4 oz jar	4 C		contaminated
07040120	120	ESE-04 SB 03	PCBs (low level), SVOC	Soil	4/18/2007	-	8 oz. jar	4 C		contaminated
07040122	122	ESE-04 SB 07	Mercury Low Level (Hold)	Soil	4/18/2007	-	4 oz jar	4 C		contaminated
07040122	122	ESE-04 SB 07	PCBs (low level), SVOC	Soil	4/18/2007	-	8 cz. jar	4 C		contaminated
07040124	124	ESB-05 SB 15	PCBs (low level), SVOC	Soíl	4/19/2007	1	8 cız jar	4 C		contaminated
07040124	124	ESB-05 SB 15	Mercury Low Level (Hold)	Soil	4/19/2007	+	4 oz jar	4 C		contaminated
07040125	125	ESB-05 SB 23	PCBs (low level), SVOC	Soil	4/19/2007	-	8 oz jar	4 C		contaminated
07040127	127	ESB-06 SB 11	PCBs (low level), SVOC	Soil	4/19/2007		8 oz jar	4 C		contaminated
07040127	127	ESE-06 SB 11	Mercury Low Level (Hold)	Soil	4/19/2007	+	4 oz jar	4 C		contaminated
07040129	129	ESE-07 SB 13	PCBs (low level), SVOC	Soil	4/19/2007	-	8 oz jar	4 C		contaminated
07040129	129	ESE-07 SB 13	Mercury Low Level (Hold)	Soil	4/19/2007		4 oz jar	4 C		contaminated
07040131	131	TC-4	PCBs (low level), SVOC	Waste	4/20/2007	_	4 oz jar	None		product
07040132	132	SW-01	PCBs (low level)	Surface Water	4/20/2007	2	1 liter arriber	4 C		should be clean
07040132	132	SW-01	SVOC (low level)	Surface Water	4/20/2007	2	1 liter amber	4 C		should be clean
07040132	132	SW-01	Mercury Low Level (Hold)	Surface Water	4/20/2007	4	40 mL jar	4 C		should be clean
07040133	1133	SW-02	Mercury Low Level (Hold)	Surface	4/20/2007	4	40 mL jar	4 C		contaminated

Asking for low level PCBs (soil and water) and SVOCs (waters only), but note that many of these samples are contaminated with TPH, as indicated. Special Instructions: Rush TAT (Friday, April 27) for 07040132, 07040133, 07040134, and 07040143 (all analyses).

Please hold low level mercury pending further notice.

STD TAT for remaining samples.

Stage 2 (SEDD and CLP-equivalent deliverable.

SAMPLES TRANSFIERRED FROM
CHAIN OF CUSTODY #

Items/Reason	Relincuished by	Date	Received by	Date	Time	Items/Reason	Refinquished By	Date	Received by	Date Time	Time
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)											

Page 3 of 5

Removal Program

START III, Seattle, WA

EPA Contract Number: EP-S7-06-02

CHAIN OF CUSTODY RECORD

Site #: 10ZZ

Contact Name: Steven Hall Contact Phone: (206) 920-1739

No: 10ZZ-04/22/07-0001 Cooler #: 6 coolers

Lab: STL-Seattle

Lab Phone: (253) 922-2310

# Cao	Sample #	Location	Analyses	Matrix	Collected	Numb	Container	Preservative MS/MSD	OSW/SW	Samp_Concentra
	07040133	SW-02	l <sup>2</sup> CBs (low fevel)	Surface Water	4/20/2007	2	1 liter amber	4 C		contaminated
	07040133	SW-02	SVOC (low level)	Surface Water	4/20/2007	2	1 liter arriber	4 C		contaminated
<b>a</b>	07041)134	SW-03	Mercury Low Level (Hold)	Surface Water	4/20/20017	4	4 40 mL jar	4 C		contaminated
	07040134	SW-03	CBs (tow level)	Surface Water	4/20/2007	2	2 1 liter arriber	4 C		contaminated
	07040134	SW-03	SVOC (low level)	Surface	4/20/2007	2	2 1 liter amber	4 C		contaminated
	07040135	EMW-01	PCBs (low level)	Ground	4/21/2007	ဖ	1 liter amber	4 C	>	should be clean
	07040135	EMW-01	SVOC (low level)	Ground	4/21/2007	ဖ	1 liter amber	4 C	<b>*</b>	should be clean
	0704136	EMV/-02	SVOC (low level)	Ground Water	4/21/2007	2	1 liter arriber	4 C		contaminated
	07040136	EMW-02	PCBs (low level)	Ground	4/21/2007	2	1 liter arriber	4 C		contaminated
	07040137	EMW/-03	PCBs (low level)	Ground	4/21/2007	2	1 liter amber	4 C		contaminated
	07040137	EMVV-03	SVOC (fow level)	Ground Water	4/21/2007	2	1 liter arriber	O 4		contaminated

Special Instructions: Rush TAT (Friday, April 27) for 07040132, 07040133, 07040134, and 07040143 (all analyses).

Asking for low level PCBs (soil and water) and SVOCs (waters only), but note that many of these samples are contaminated with TPH, as indicated.

Please hold low level mercury pending further notice.

STD TA" for remaining samples.

Stage 2 SEDD and CLP-equivalent deliverable.

SAMPLES TRANSFERRED FROM CHAIN OF CUSTODY #

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	Date	
	Relinquished Ev	
	Items/Reason	
	Time	1050/4
	Date	4/13/37
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4	items/Reason	1

Page 4 of 5

Removal Program

START III, Seattle, WA
EPA Contract Number: EP-S7-06-02

CHAIN OF CUSTODY RECORD

Site #: 102Z

Contact Name: Steven Hall Contact Phone: (206) 920-1739

No: 10ZZ-04/22/07-0001

Cooler #: 6 coolers Lab: STL-Seattle

Lab Phone: (253) 922-2310

Lab#	Sample #	Location	<sup>,</sup> ⁴nalyses	Matrix	Collected	Numb	Numb Container Cont	Preservative	MS/MSD	Samp_Concentration
	07040138	EMW-04	SVOC (low fevel)	Ground	4/21/2007	2	1 liter amber	4 C		contaminated
	07040138	EMW-04	PCBs (low level)	Ground Water	4/21/2007	2	1 liter amber	Q 4		contaminated
	07041)139	EMW/-05	PCBs (low level)	Ground Water	4/21/2007	7	1 fiter amber	0 4		contaminated
	07040139	EMW-05	SVOC (low level)	Ground Water	4/21/2007	N	1 liter amber	4 C		contaminated
	07040140	EMW-06	PCBs (low level)	Ground	4/21/2007	2	1 liter amber	4 C		contaminated
	07040140	EMW/-06	SVOC (low level)	Ground Water	4/21/2007	2	1 liter amber	4 C		contaminated
	07040141	년-1	PCBs (low level)	Ground Water	4/21/2007	2	2 1 liter amber	4 C		
	07040141	H2-1	SVOC (tow level)	Ground Water	4/21/2007	0	1 liter arriber	4 C		THE
	07040142	MW-5	PCBs (low level)	Ground Water	4/21/2007	2	1 liter amber	4 C		
	07040142	MW-5	SVOC (fow level)	Ground Water	4/21/2007	2	1 liter arriber	D 4		, , , , , , , , , , , , , , , , , , ,
-	07040143	DW-01	SVOC (low level)	Ground	4/21/2007	2	1 liter arriber	4 C		should be clean

Special Instructions: Rush TAT (Friday, April 27) for 07:340132, 07040133, 07040134, and 07040143 (all analyses).

Asking for low level PCBs (soil and water) and SVOCs (waters only), but note that many of these samples are contaminated with TPH, as indicated.

Please hold low level mercury pending further notice.

STD TA" for remaining samples.
Stage 2 SEDD and CLP-equivalent deliverable.

SAMPLES TRANSFIERRED FROM

CHAIN OF CUSTODY#

HART.	,		Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
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		7/18/32/21	イ180/67	10201						
)										
							-			

Page 5 of 5

Removal Program

START III, Seattle, WA

EPA Contract Number: EP-S7-06-02

CHAIN OF CUSTODY RECORD

Site #: 10ZZ

Contact Phone: (206) 920-1739 Contact Name: Steven Hall

No: 10ZZ-04/22/07-0001

Cooler #: 6 coolers Lab: STL-Seaffle

Lab Phone; (253) 922-2310

Sample #	Location	Analyses		Collected	Numb	Numb Container Cont	Preservative MS/MSD	MS/MSD	Samp_Concentra tion
07040143	DW-01	PCBs (low level)	Ground Water	4/21/2007	2	2 1 liter amber	0 4		should be clean
		TO THE PERSON NAMED AND ADDRESS OF THE PERSON NAMED AND ADDRES							
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	A STATE OF THE PARTY OF THE PAR					THE REAL PROPERTY AND ADDRESS OF THE PARTY O			
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						PARTY OF THE RANGE OF THE PARTY			
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Asking for low level PCBs (soil and water) and SVOCs (waters only), but note that many of these samples are contaminated with TPH, as indicated. Special Instructions: Rush TAT (Friday, April 27) for 07040132, 07040133, 07040134, and 07040143 (all analyses).

Please hold low level mercury pending further notice.

STD TA" for remaining samples.

Stage 2 SEDD and CLP-equivalent deliverable.

SAMPLES TRANSFIERRED FROM

CHAIN OF CUSTODY#

Items/Reason Relinguisty by	/ Date	e Received by	Date	Time	Items/Reason	Relinquished By Date	Date	Received by	Date Time	Time
HARA	4-23-07	19/10-1	,			THE WAY OF LANDING AMERICAN AND ASSESSMENT AND ASSESSMENT ASSESSME				
とう		- KN9/01	4/28/2	多多	_1					
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		THE PERSON NAMED IN COLUMN TO THE PE								
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Appendix D

Analytical Data Reports

# ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

#### **MEMORANDUM**

DATE:

May 26, 2007

TO:

Steve Hall, Project Manager, E & E, Seattle, Washington

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Organic Data Quality Assurance Review, Avery Landing Site,

Avery, Idaho

REF:

TDD: 07-03-0004

PAN: 002233.0193.01SF

The data quality assurance review of 4 water samples collected from the Avery Landing site in Avery, Idaho, has been completed. Volatile Organic Compound (VOC) analysis (EPA Method 8260) was performed by Laucks Testing Services, Seattle, Washington.

The samples were numbered:

07040132

07040133

07040134

07040143

#### Data Qualifications:

# 1. Sample Holding Times: Acceptable.

The samples were maintained and received within the QC limits of  $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ . The samples were collected on April 20, 2007, and were analyzed on April 25, 2005, therefore meeting QC criteria of less than 14 days between collection and analysis for preserved water samples.

#### 2. Tuning: Acceptable.

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

## 3. Initial Calibration: Acceptable.

All average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All water Relative Standard Deviations (RSDs) were less than the QC limits of 30% or had a correlation coefficient > 0.995.

#### 4. Continuing Calibration: Acceptable.

All RRFs were greater than the QC limit of 0.050. All % differences were less than the QC limit of 25% or had a drift < 15%.

#### 5. Blanks: Acceptable.

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any method blank.

#### 6. System Monitoring Compounds (SMCs): Acceptable.

All SMC recoveries were within QC limits.

## 7. Blank Spike (BS) Analysis: Acceptable.

BS analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within QC limits.

## 8. Internal Standards: Acceptable.

All internal standards were within  $\pm$  30 seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts.

#### 9. Precision and Bias Determination: Not Performed.

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

#### 10. Performance Evaluation Sample Analysis: Not Provided.

Performance evaluation samples were not provided to the laboratory.

#### 11. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

# **Data Qualifiers and Definitions**

- J The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

CLIENT	SAMPLE	NO.
070	40132	

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
EDG No.: IDA01	Run Seguence: R017155
Matrix: (SOIL/SED/WATER) Water	Lab Sample ID: IDA01-001
Sample wt/vol: 5.00 . {g/mL} mL	Lab File ID: Y0425012.D  Date Collected: 04/20/2007
Level: (LOW/MED)	
& Moisture: not dec.	Date/Time Analyzed: 04/25/2007 11:19
GC Column: DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
Hantad Durge, (V/N) N	•

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	3.0	ับ
74-87-3	Chloromethane	1.0	ט
75-01-4	Vinyl chloride	1.0	Ū
74-83-9	Bromomethane	1.0	Ū
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	Ū
75-35-4	1,1-Dichloroethene	1.0	ប
67-64-1	Acetone	5.0	Ū
75-15-0	Carbon disulfide	1.0	Ū
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	σ.
75-34-3	1,1-Dichloroethane	1.0	υ
156-59-2	cis-1,2-Dichloroethene	1.6	<u>"</u>
78-93-3	2-Butanone	5.0	ע
67-66-3	Chloroform	1.0	ָּט
71-55-6	1,1,1-Trichloroethane	1.0	Ŭ
56-23-5	Carbon tetrachloride	1.0	ש
71-43-2	Benzene	1.0	<u>.</u>
107-06-2	1,2-Dichloroethane	1.0	ਹ
79-01-6	Trichloroethene	1.0	ש
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	ע
10061-01-	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	<u>"</u>
10061-02-	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	ם ם
591-78-6	2-Hexanone	5.0	ប

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MW 526-07

FORM I VOA

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VOLATILE	ORGANICS'	ANALYSIS	DATA	SHEET

CLIENT	SAMPLE	ŃO.	
070	40132		

		<del></del>		
Lab Name: <u>1</u>	aucks Testing Laboratories, Inc.	Contract:	· · · · · · · · · · · · · · · · · · ·	
SDG No.: ID	A01	Run Sequence: R017155	,	
•	ri/sen/waver) Water	Lab Sample ID: IDA01-001		
	ol: 5.00 (g/mL) mL	Lab File ID: Y0425012.D		
	/MED)	Date Collected: 04/20/2007		
% Moisture:	not dec.	Date/Time Analyzed: 04/25/20	007 11:19	
GC Column:	DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0		
Soil Extrac	t Volume:(uL)	Soil Aliquot Volume:	(vI-)	
Heated Purg	e: (Y/N) <u>N</u>			
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	· .Ω	
124-48-1	Dibromochloromethane	1.0	Ū	
108-90-7	Chlorobensene	1.0	Ū	
100-41-4	Ethylbenzene	1.0	Ü	
179601-23	m,p-Xylene	2.0	U	
95-47-6	o-Xylene	1.0	U	
100-42-5	Styrene	3.0	Ū	
75-25-2	Bromoform	1.0	Ü	
		1 0	33	

Comments:

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CLIENT SAMPLE NO.	
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•			
Lab Name:	aucks Testing Laboratories, Inc.	Contract:	
gng No . II	DA01	Run Sequence: R017155	
		Lab Sample ID: IDA01-002	
	IL/SED/WATER) Water		•
Sample wt/v	rol: 5.00 (g/mī <sub>3</sub> ) mī <sub>3</sub>	Lab File ID: Y0425013.D	
		Date Collected: 04/20/2007	
	(/MED)	Date/Time Analyzed: 04/25/200	B7 11:43
% Moisture:	not dec.		
CC Column:	DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0	<del></del>
		Soil Aliquot Volume:	(uL)
Soil Extrac	et Volume:(uL)	0011	
Heated Purg	ge: (Y/N) <u>N</u>		
	COUNCE	CONCENTRATION UNITS:	Q
CAS NO.	COMPOUND	(ug/L or ug/kg) ug/L	Ū
75-71-8	Dichlorodifluoromethane	1.0	
74-B7-3	Chloromethane	1.0	<u> </u>
75-01-4	Vinyl chloride	1.0	TI TI
74-83-9	Bromomethane	3.0	U
75-00-3	Chloroethane	1.0	τī
75-69-4	Trichlorofluoromethane	1.0	U U
75-35-4	1,1-Dichloroethens	1.0	Ü
67-64-1	Acetone	5.0	11
75-15-0	Carbon disulfide	1.0	π -
75-09-2	Methylene chloride	1.0	TT
156-60-5	trans-1,2-Dichloroethene	1.0	T
75-34-3	1,1-Dichloroethane	1.0	<del>u</del>
156-59-2	cis-1,2-Dichloroethene	i.0	7
78-93-3	2-Butanone	5.0	<del>                                     </del>
67-66-3	Chloroform	1.0	<u> </u>
71-55-6	1,1,1-Trichloroethane	3.0	U
56-23-5	Carbon tetrachloride	1.0	<u> </u>
71-43-2	Benzene	1.0	<del> </del>
107-06-2	1,2-Dichloroethane	1.0	<u>ט</u>
79-01-6	Trichloroethene	1.0	Ū
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	<u>"</u>
1		1.0	) U

Page 1 of 2

2-Hexanone

Toluene

10061-01-

108-10-1

108-88-3

10061-02-

79-00-5

127-18-4

591-78-6

cis-1,3-Dichloropropene

trans-1,3-Dichloropropene

4-Methyl-2-pentanone

1,1,2-Trichloroethane

Tetrachloroethene

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VOLATILE.	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT	Sample	NO.	
071	140133		

•	•		
Lab Name: Lab	aucks Testing Laboratories, Inc.	Contract:	<u> </u>
SDG No.: IDI	AOI	Run Sequence: R017155	· · · · · · · · · · · · · · · · · · ·
Matrix: (SOI	L/SED/WATER) Water	Lab Sample ID: IDA01-002	
Sample wt/vo	1: 5.00 (g/ml) mL	Lab File ID: <u>Y0425013.D</u>	
Level: (LOW/	MED)	Date Collected: 04/20/2007	
% Moisture:	not dec.	Date/Time Analyzed: 04/25/2	007 11:43
ac Column:	DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0	
Soil Extract	Volume:(uL)	Soil Aliquot Volume:	(uL)
Heated Purge	: (Y/N) <u>N</u>		
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
124-48-1	Dibromochloromethane	1.0	ט
108-90-7	Chlorobenzene .	1.0	ש
100-41-4	Ethylbenzene	1.0	Ū
179601-23	m.p-Xylene	2.0	υ.
95-47-6	o-Xylene	1.0	, <u>n</u>
100-42-5	Styrene	1.0	Ū
75-25-2	Bromoform	1.0	Ū
79-34-5	1,1,2,2-Tetrachloroethane	1.0	ס

79-34-5 Comments:

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CLIENT	SAMPLE	NO

070403	34

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA01	Run Sequence: R017155
Matrix: (SOIL/SED/WATER) Water	Lab Sample ID: IDA01-003
Sample wt/vol: 5.00 (g/mL) mL	Lab File ID: <u>Y0425014.D</u>
Level: (LOW/MED)	Date Collected: 04/20/2007
% Moisture: not dec.	Date/Time Analyzed: 04/25/2007 12:07
GC Column: DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
Wester Purge: (Y/N) N	

CAS NO.	COMPOUND	CONCENTRATION UNITS; (ug/L or ug/kg) ug/L	Q
75-71-8	Dichloredifluoromethane	1.0	บ
74-87-3	Chloromethane	1.0	Ū
75-01-4	Vinyl chloride	1.0	<u> </u>
74-83-9	Bromomethane	1.0	<u>.</u>
75-00-3	Chloroethane	1.0	Ū
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	Ū
	Acetone	5.0	ט
67-64-1	Carbon disulfide	2.0	. U
75-15-0	Methylene chloride	1.0	υ
75-09-2	trans-1,2-Dichloroethene	1.0	<b>ט</b>
156-60-5	1,1-Dichloroethane	1.0	Ū
75-34-3	cis-1,2-Dichlorosthene	1.0	ប
156-59-2	2-Butanone	5.0	Ū
78-93-3	Chloroform	1.0	ū
67-66-3	1,1,1-Trichloroethane	1.0	ט
71-55-6	Carbon tetrachloride	1.0	ָ <mark>ט</mark>
56-23-5		1.0	ū
71-43-2	Benzene	1.0	ט
107-06-2	1,2-Dichloroethane	1,0	U
79-01-6	Trichloroethene	1.0	Ū
78-87-5	1,2-Dichloropropane	1.0	ט
75-27-4	Bromodichloromethane	1.0	Ü
10061-01-	cis-1,3-Dichloropropene	5.0	ש
108-10-1	4-Methyl-2-pentanone	1.0	<del>                                     </del>
108-88-3	Toluene		ש
10061-02-	trans-1,3-Dichloropropens	1.0	1 0
79-00-5	1,1,2-Trichloroethane	1.0	<del>-</del> <del>-</del> <del>-</del> <del>-</del> <del>-</del> <del>-</del> -
127-18-4	Tetrachloroethene	3.0	n
591-78-6	2-Hexanone	5.0	

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FORM I VOA

VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT SAMPLE NO

07	04	01	3	4
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	the control of the co	<del></del>	
Lab Name: L	aucks Testing Laboratories, Inc.	Contract:	
SDG No.: ID	<u> 201                                   </u>	Run Sequence: R017155	
Matrix: (SO	IL/SED/WATER) Water	Lab Sample ID: IDA01-003	<u>,</u>
	ol. 5.00 (g/mL) mL	Lab File ID: Y0425014.D	
Level: (LOW,	/MED)	Date Collected: 04/20/2007	
% Moisture:	not dec.	Date/Time Analyzed: 04/25/200	7 12:07
	DB-624 20m ID: 0.1B (mm)	Dilution Factor: 1.0	
Soil Extract	Volume:(uL)	Soil Aliquot Volume:	(117.)
	e: (Y/N) <u>N</u>		
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
124-48-1	Dibromochloromethane	1.0	ט
108-90-7	Chlorobenzene	1.0	ט
100-41-4	Ethylbenzene	1.0	Ū
179601-23	m,p-Xylens	2.0	ט
95-47-6	o-Xylene	1.0	υ
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	Ū
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Comments:

MW 526-07

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WITTE TOW	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT	SAMPLE	NO.	
070	40143		

		•	
Lab Name: La	ucks Testing Laboratories, Inc.	Contract:	
SDG No.: IDA	01	Run Sequence: R017155	
	•	Lab Sample ID: IDA01-004	
	ii/ 6300/ 10552 2007	Lab File ID: Y0425015.D	
Sample wt/vo	1: 5.00 (g/mL) mL		
Level: (LOW/	MED)	Date Collected: 04/20/2007	· · · · · · · · · · · · · · · · · · ·
	not dec.	Date/Time Analyzed: 04/25/200	
GC Column: [	DB-624 20m ID; 0.18 (mun)	pilution Factor: 1.0	
Soil Extract	Volume: (uL)	Soil Aliquot Volume;	(uL)
Heated Purge	: (Y/N) N		
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	1.0	Ū
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	3.0	
74-83-9	Bromomethane	1.0	U
75-00-3	Chloroethane	1.0	ט .
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichlorosthene	1.0	ט
67-64-1	Acatone	5.0	<u>.</u> ד
75-15-0	Carbon disulfide	1.0	ָּע
75-09-2	Methylene chloride	1.0	ד
156-60-5	trans-1,2-Dichloroethene	1.0	U
75-34-3	1,1-Dichloroethane	1.0	ָ ט
156-59-2	cis-1,2-Dichloroethene	1.0	<u> </u>
78-93-3	2-Butanone	.5.0	U
67-66-3	Chloroform	1.0	U
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon tetrachlorida	1.0	Ū
71-43-2	Benzene	3.0	IJ
107-06-2	1,2-Dichloroethane	1.0	Ū
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	Ū
75-27-4	Bromodichloromethane	1.0	ָׁ ט
10061-01-	cis-1,3-Dichloropropene	1.0	ਹ ਹ
108-10-1	4-Methyl-2-pentanone	5.0	<u> </u>
106-88-3	Toluene	.1.0	<u> </u>
10061-02-	trans-1,3-Dichloropropene	1.0	<u> </u>
79-00-5	1,1,2-Trichloroethane	1.0	<u>U</u>
127-18-4	Tetrachloroethene	1.0	<u>"</u>
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FORM I VOA

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VOA - 31

591-78-5

2-Hexanone

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET	1

CLIENT	SAMPLE	NO.

			D7040	1243
Lab Name: <u>L</u>	aucks Testing Laboratories, Inc.	Cont	ract:	
	A01	Run S	Sequence: R017155	
Matrix: (SO)	IL/SED/WATER) Water	Lab &	Sample ID: IDA01-004	
Sample wt/vo	ol: 5.00 (g/ml) ml	Lab I	File ID: Y0425015.D	
Level: (LOW)	/MED)		Collected: 04/20/2007	
ቂ Moisture:	not dec.	Date	Time Analyzed: 04/25/20	07 12:32
	DB-624 20m ID: 0.18 (mm)	Dilui	tion Factor: 1.0	
Soil Extract	Volume: (uL)	Soil	Aliquot Volume:	(nr)
	e: (Y/N) <u>N</u>			
CAS NO.	COMPOUND		CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
124-48-1	Dibromochloromethane		1.0	Ū
108-96-7	Chlorobenzene		1.0	บ
100-41-4	Ethylbenzene		1.0	บ
179601-23	m,p-Xylene		2.0	Ũ
95-47-6	o-Xylene	, .	1.0	บ
100-42-5	Styrene	:.	1.0	· U
75-25-2	Bromoform		1.0	IJ
79-34-5	1,1,2,2-Tetrachloroethane		1.0	บ .

79-34-5 Comments:

MW 526-07

# ecology and environment, inc.



International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

#### **MEMORANDUM**

DATE:

May 28, 2007

TO:

Steve Hall, Project Manager, E & E, Seattle, Washington

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Organic Data Quality Assurance Review, Avery Landing Site,

Avery, Idaho

REF:

TDD: 07-03-0004

PAN: 002233.0193.01SF

The data quality assurance review of 1 waste, 10 water, and 11 soil samples collected from the Avery Landing site in Avery, Idaho, has been completed. Volatile Organic Compound (VOC) analysis (EPA Method 8260) was performed by Laucks Testing Services, Seattle, Washington.

The samples were numbered:

Water	07040111	07040136	07040137	07040138	07040139
	07040135	07040140	07040141	07040142	07040130
Soil	07040101 07040115 07040128	07040103 07040118	07040107 07040121	07040109 07040123	07040112 07040126

Waste 07040131

#### Data Qualifications:

# 1. Sample Holding Times: Acceptable.

The samples were maintained at  $4^{\circ}$ C ( $\pm$   $2^{\circ}$ C) except one cooler which was received at 7.2 °C; no action was taken based on this slight outlier. The samples were collected on April 20, 2007, and were analyzed on April 25, 2005, therefore meeting QC criteria of less than 14 days between collection and analysis for preserved water samples. There are no holding times for waste samples.

#### 2. Tuning: Satisfactory.

Tuning was performed at the beginning of each 12-hour analysis sequence except for the matrix spike analyses for sample 07040135; these spike analyses were used for sample qualification as the spike reanalyses had more QC outliers due to internal standard outliers. All results were within QC limits.

#### 3. Initial Calibration: Acceptable.

All average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All water Relative Standard Deviations (RSDs) were less than the QC limits of 30% or had a correlation coefficient > 0.995.

#### 4. Continuing Calibration: Satisfactory.

All RRFs were greater than the QC limit of 0.050. All % differences were less than the QC limit of 25% or had a drift < 15% except bromomethane with a low % drift and 2-hexanone with a high % recovery in the April 26, 2007 calibration, carbon disulfide with a high recovery in the May 1, 2007 (1050) calibration, dichlorodifluoromethane with a high recovery in the May 2, 2007 (1428) calibration, and dichlorodifluoromethane with a low recovery and cis-1,3-dichloropropane and 4-methyl-2-phenol with high recoveries in the May 8, 2007 calibration. Positive sample results associated with the high recovery outliers were qualified as estimated quantities (J) and positive results and sample quantitation limits associated with the low recovery outliers were qualified as estimated quantities (J or UJ).

#### 5. Blanks: Satisfactory.

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any method blank except acetone (3.1 micrograms per kilogram [ $\mu$ g/kg]) and 4-methyl-2-pentanone (1.3  $\mu$ g/kg) in the May 1, 2007 soil blank, acetone (2.1  $\mu$ g/kg) and methylene chloride (2.6  $\mu$ g/kg) in the May 2, 2007 (batch R017408) soil blank, methylene chloride (280  $\mu$ g/kg) in the May 1, 2007 (batch R017522) soil blank, and acetone (3.4  $\mu$ g/kg) in the May 8, 2007 soil blank. Associated sample results less than five times the blank results (10 times for the common laboratory contaminants methylene chloride and acetone) were qualified as not detected (U).

# 6. System Monitoring Compounds (SMCs): Satisfactory.

All SMC recoveries were within QC limits except one SMC in the matrix spike and matrix spike duplicate samples (no action was taken based on these outliers), one or more SMCs with high recoveries in samples 07040128 (and rerun), 07040135 (and spike), 07040126, 07040123, 07040115 (and rerun), 07040101 (and rerun), 07040112 dilution, 07040109, and 07040126 dilution (associated positive results were qualified as estimated quantities [J]), and one low SMC and one high SMC in samples 07040121, 07040112, 07040123 dilution, and 07040109 dilution (associated sample results were qualified as estimated quantities [J or UJ]).

# 7. Blank Spike (BS) and Matrix Spike (MS) Analysis: Satisfactory.

BS and MS analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All BS recoveries were within QC limits except dichlorodifluoromethane with a low recovery and cis-1,3-dichloropropane with a high recovery in the soil BS and cis-1,3-dichloropropene and o-xylene with high recoveries in the soil BS. Associated positive sample results for high recovery outliers were qualified as estimated quantities (J) and associated positive results and sample quantitation limits for low recovery outliers were qualified as estimated quantities (J or UJ). All MS recoveries were within QC limits except the water benzene MS (low recovery) in sample 07040135, dichlorodifluoromethane, chloromethane, and vinyl chloride in MS of sample 07040107 (all low recoveries, therefore associated sample results [sample 07040107] were qualified as estimated quantities [J or UJ]) and methylene chloride with a relative percent difference outlier (the methylene chloride result in sample 07040107 was qualified as an estimated quantity {J or UJ]).

#### 8. Internal Standards: Satisfactory.

All internal standards were within  $\pm$  30 seconds of the continuing calibration internal standard retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts except the following with low area counts: chlorobenzene in sample 07040128 rerun, dichlorobenzene in the method blank (no action taken), the dilutions for samples 07040126, 07040121, and 07040123, the reruns for samples 07040101, 07040128, and 07040115, and samples 07040101, 07040109, and 07040115, and fluorobenzene in the rerun of sample 07040128 and the dilution of sample 07040126; and the following with high area counts: chlorobenzene in samples 07040109, 07040112, 07040121, and the dilutions of samples 07040109 and 07040123. Positive sample results associated with high area count outliers were qualified as estimated quantities (J). Positive sample results and sample quantitation limits associated with low area count outliers were qualified as estimated quantities (J or UJ).

# 9. Precision and Bias Determination: Not Performed.

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

# 10. Performance Evaluation Sample Analysis: Not Provided.

Performance evaluation samples were not provided to the laboratory.

#### 11. Overall Assessment of Data for Use

Diluted results were hand-transcribed by the data reviewer onto the original Form I's.

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

#### Data Qualifiers and Definitions

- J The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit
- UI The material was analyzed for but was not detected. The associated numerical value is the estimated sample quantitation limit.

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT	SAMPLE	NO.	
070	40111		

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Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017320
Matrix: (SOIL/SED/WATER) Water	Lab Sample ID: IDA02-001
Sample wt/vol: 5.00 (g/mL) mL	Lab File ID: M0501025.D
Level: (LOW/MED)	Date Collected: 04/18/2007
% Moisture: not dec.	Date/Time Analyzed: 05/01/2007 19:12
GC Column: ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L
75-71-8	Dichlorodifluoromethane	1.0
74-87-3	Chloromethane	1.0
75-01-4	Vinyl chloride	1.0
74-83-9	Bromomethane	1.0
75-00-3	Chloroethane	1.0
75-69-4	Trichlorofluoromethane	1.0
	1 1 highlorosthers	1.0

74-83-9	Bromomethane		
75-00-3	Chloroethane	1.0	Ü
75-69-4	Trichlorofluoromethane	1.0	Ū
75-35-4	1,1-Dichloroethene	1.0	
67-64-1	Acetone	2.0	J
75-15-0	Carbon disulfide	1.0	Ü
75-09-2	Methylene chloride	. 3.7	
156-60-5	trans-1,2-Dichloroethene	1.0	Ū
75-34-3	1,1-Dichloroethane	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	ט
78-93-3	2-Butanone	5.0	U
67-66-3	Chloroform	1.0	Ū
71-55-6	1,1,1-Trichloroethane	1.0	Ū
56-23-5	Carbon tetrachloride	1.0	Ū
71-43-2	Benzene	1.0	Ū
107-06-2	1,2-Dichloroethane	1.0	ט
79-01-6	Trichloroethene	1.0	· U
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	Ŭ
10061-01-	cis-1,3-Dichloropropene	1.0	<u>ט</u>
108-10-1	4-Methyl-2-pentanone	5.0	Ū
108-10-1	Toluene	1.0	ΰ
10061-02-	trans-1,3-Dichloropropene	1.0	Ū
	1,1,2-Trichloroethane	1.0	· Ū
79-00-5	Tetrachloroethene	1.0	ט
127-18-4		5.0	ט
591-78-6	2-Hexanone		

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Heated Purge: (Y/N) N

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT	SAMPLE	NO.	
070	40111		

Lab Name: La	ucks Testing Laboratories, Inc.	Contract:	
SDG No.: IDA	.02	Run Sequence: R017320	
	L/SED/WATER) Water	Lab Sample ID: IDA02-001	
Sample wt/vo	l: 5.00 (g/mL) <u>mL</u>	Lab File ID: M0501025.D	
•	MED)	Date Collected: 04/18/2007	
	not dec.	Date/Time Analyzed: 05/01/200	7 19:12
	ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0	
Soil Extract	Volume:(uL)	Soil Aliquot Volume:	(uL)
	e: (Y/N) <u>N</u>		
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
124-48-1	Dibromochloromethane	1.0	U
108-90-7	Chlorobenzene	1.0	Ú
100-41-4	Ethylbenzene	1.0	Ū
179601-23	m,p-Xylene	2.0	Ü
95-47-6	o-Xylene	1.0	ט
100-42-5	Styrene	1.0	<u>u</u> .
75-25-2	Bromoform	1.0	บ
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Comments:

1,1,2,2-Tetrachloroethane

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

 CLIENT	SAMPLE	NO.	
 .070	)40136		

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017155
Matrix: (SOIL/SED/WATER) Water	Lab Sample ID: IDA02-002
Sample wt/vol: 5.00 (g/mL) mL	Lab File ID: Y0425016.D
Level: (LOW/MED)	Date Collected: 04/21/2007
% Moisture: not dec.	Date/Time Analyzed: 04/25/2007 12:56
GC Column: DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume: (uL)	Soil Aliquot Volume:(uL)
Heated Purge: (Y/N) N	<u> </u>

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Õ
75-71-8	Dichlorodifluoromethane	1.0	Ü
74-87-3	Chloromethane	1.0	ט
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	<u>"J</u>
75-00-3	Chloroethane	1.0	Ū
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1,0	<u> </u>
67-64-1	Acetone	5.0	ע
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	ָּט
156-60-5	trans-1,2-Dichloroethene	1.0	U
75-34-3	1,1-Dichloroethane	1.0	Ū
156-59-2	cis-1,2-Dichloroethene	1.0	ט
78-93-3	2-Butanone	5.0	Ū
67-66-3	Chloroform	1.0	Ü
71-55-6	1,1,1-Trichloroethane	1.0	Ū
56-23-5	Carbon tetrachloride	1.0	ט
71-43-2	Benzene	1.0	ע
107-06-2	1,2-Dichloroethane	1.0	Ū
79-01-6	Trichloroethene	1:0	ប
78-87-5	1.2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	Ū
10061-01-	cis-1,3-Dichloropropene	1.0	ט
108-10-1	4-Methyl-2-pentanone	5.0	Ū
108-88-3	Toluene	1.0	Ū
10061-02-	trans-1,3-Dichloropropene	1.0	<u>ט</u>
79-00-5	1,1,2-Trichloroethane	1.0	Ū
127-18-4	Tetrachloroethene	1.0	ט
591-78-6	2-Hexanone	5.0	ט

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT	SAMPLE	NO.	
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07040136

Lab Name: L	aucks Testing Laboratories, Inc.	Contract:	
SDG No.: ID	<b>A</b> 02	Run Sequence: R017155	
Matrix: (SO	L/SED/WATER) Water	Lab Sample ID: IDA02-002	···
Sample wt/vo	ol: 5.00 (g/mL) mL	Lab File ID: Y0425016.D	
Level: (LOW,	/MED)	Date Collected: 04/21/2007	
% Moisture:	not dec.	Date/Time Analyzed: 04/25/200	7 12:56
GC Column: DB-624 20m ID: 0.18 (mm) Dilution Factor: 1.0			<del></del>
Soil Extract	: Volume:(uL)	Soil Aliquot Volume:	(uL)
Heated Purge	e: (Y/N) <u>N</u>		
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
124-48-1	Dibromochloromethane	1.0	ט
108-90-7	Chlorobenzene	1.0	ט
100-41-4	Ethylbenzene	1.0	บ
179601-23	m,p-Xylene	2.0	υ
95-47-6	o-Xylene	1.0	Ŭ
100~42-5	Styrene	1.0	ŭ
75-25-2	Bromoform	1.0	ט
79-34-5	1,1,2,2-Tetrachloroethane	1.0	U

79-34-5 Comments:

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(	LIENT	SAMPLE	NO.	
	070	040137		

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017155
Matrix: (SOIL/SED/WATER) Water	Lab Sample ID: IDA02-003
Sample wt/vol: 5.00 (g/ml) mL	Lab File ID: Y0425017.D
Level: (LOW/MED)	Date Collected: 04/21/2007
% Moisture: not dec.	Date/Time Analyzed: 04/25/2007 13:21
GC Column: DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume: (uL)	Soil Aliquot Volume:(uL)
Heated Purge: (Y/N) N	

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	Ū
74-83-9	Bromomethane	1.0	υJ
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	Ū
75-35-4	1,1-Dichloroethene	1.0	Ū
67-64-1	Acetone	2.8	J
	Carbon disulfide	1.0	Ū
75-15-0	Methylene chloride	1.0	Ū
75-09-2	trans-1,2-Dichloroethene	1.0	Ū
156-60-5	1,1-Dichloroethane	1.0	Ü .
75-34-3	cis-1,2-Dichloroethene	1.0	U
156-59-2		5.0	υ
78-93-3	2-Butanone	1.0	Ū
67-66-3	Chloroform	1.0	Ū
71-55-6	1,1,1-Trichloroethane	1.0	Ü
56-23-5	Carbon tetrachloride	1.0	Ū
71-43-2	Benzene	1.0	Ü
107-06-2	1,2-Dichloroethane		ט
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	υ
75-27-4	Bromodichloromethane	1.0	
10061-01-	cis-1,3-Dichloropropene	1.0	U ·
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U .
10061-02-	trans-1,3-Dichloropropene	1.0	ָט
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	υ
591-78-6	2-Hexanone	5.0	<u>י</u>

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

 CLIENT	SAMPLE	NO.	
070	40137		

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Lab Name: L	aucks Testing Laboratories, Inc.	Contract:	
SDG No.: ID	A02	Run Sequence: R017155	
Matrix: (SO	IL/SED/WATER) Water	Lab Sample ID: IDA02-003	
Sample wt/vo	ol: 5.00 (g/mL) mL	Lab File ID: Y0425017.D	
Level: (LOW/	/MED)	Date Collected: 04/21/2007	
	not dec.	Date/Time Analyzed: 04/25/2007 13	:21
GC Column:	DB-624 20m ID: 0.18 (mm	Dilution Factor: 1.0	
Soil Extract	t Volume:(uL)	Soil Aliquot Volume:(	uL)
Heated Purge	e: (Y/N) <u>N</u>		
CAS NO.	COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/kg) ug/L	
124-48-1	Dibromochloromethane	1.0 U	
108-90-7	Chlorobenzene	1.0 U	
100-41-4	Ethylbenzene	1.0 0	
179601-23	m,p-Xylene	2.0	
95-47-6	o-Xylene	1.0	

1.0

1.0

1.0

79-34-5 Comments:

100-42-5

75-25-2

Styrene

Bromoform

1,1,2,2-Tetrachloroethane

MV 52807

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT	SAMPLE	NO.	
070	40138		

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017155
Matrix: (SOIL/SED/WATER) Water	Lab Sample ID: IDA02-004
Sample wt/vol: 5.00 (g/mL) mL	Lab File ID: Y0425018.D
Level: (LOW/MED)	Date Collected: 04/21/2007
% Moisture: not dec.	Date/Time Analyzed: 04/25/2007 13:46
GC Column: DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume: (uL)
Heated Purge: (Y/N) N	

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	ΰ
75-01-4	Vinyl chloride	1.0	Ū
74-83-9	Bromomethane	1.0	<u>C u</u>
75-00-3	Chloroethane	1.0	ט
75-69-4	Trichlorofluoromethane	1.0	Ū
75-35-4	1,1-Dichloroethene	1.0	Ū
67-64-1	Acetone	3.2	J
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	Ū
156-60-5	trans-1,2-Dichloroethene	1.0	Ŭ
75-34-3	1,1-Dichloroethane	1.0	ט
156-59-2	cis-1,2-Dichloroethene	1.0	ט
78-93-3	2-Butanone	5.0	U
67-66-3	Chloroform	1.0	ָּט
71-55-6	1,1,1-Trichloroethane	1.0	ਹ
56-23-5	Carbon tetrachloride	1.0	U
71-43-2	Benzene	1.0	Ü
107-06-2	1,2-Dichloroethane	1.0	ט
79-01-6	Trichloroethene	1.0	Ū
78-87-5	1,2-Dichloropropane	1.0	υ
75-27-4	Bromodichloromethane	1.0	ប
10051-01-	cis-1,3-Dichloropropene	1.0	ט
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	ប
10061-02-	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	Ū
127-18-4	Tetrachloroethene	1.0	ט
			TT

5.0

591-78-6

2-Hexanone

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT	SAMPLE	NO.	
07040138			

Lab Name: La	aucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA	102	Run Sequence: R017155
Matrix: (SOI	L/SED/WATER) Water	Lab Sample ID: IDA02-004
Sample wt/vo	l: 5.00 (g/mL) mL	Lab File ID: Y0425018.D
Level: (LOW/	MED)	Date Collected: 04/21/2007
% Moisture:	not dec.	Date/Time Analyzed: 04/25/2007 13:46
GC Column:	DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract	Volume: (uL)	Soil Aliquot Volume:(uL)
Heated Purge	e: (Y/N) N	
CAS NO.	COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/kg) ug/L
1		

CAS NO.	COMPOUND	(ug/L or ug/kg) ug/L	Q
124-48-1	Dibromochloromethane	1.0	ט
108-90-7	Chlorobenzene	1.0	ប
100-41-4	Ethylbenzene	1.0	ΰ
179601-23	m,p-Xylene	2.0	Ū
95-47-6	o-Xylene	1.0	Ü
100-42-5	Styrene	1.0	Ŭ
75-25-2	Bromoform	1.0	Ũ
79-34-5	1,1,2,2-Tetrachloroethane	1.0	Ū

Comments:

MW 57607

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07040139

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Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017155
Matrix: (SOIL/SED/WATER) Water	Lab Sample ID: IDA02-005
Sample wt/vol: 5.00 (g/mL) mL	Lab File ID: <u>Y0425019.D</u>
Level: (LOW/MED)	Date Collected: 04/21/2007
% Moisture: not dec.	Date/Time Analyzed: 04/25/2007 14:10
GC Column: DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
Heated Purge: (Y/N) N	
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	-Q
75-71-8	Dichlorodifluoromethane	1.0	υ
74-87-3	Chloromethane	1.0	Ü
75-01-4	Vinyl chloride	1.0	Ŭ
74-83-9	Bromomethane	1.0	υ 🣆
75-00-3	Chloroethane	1.0	U
75-69-4	Trichlorofluoromethane	1.0	ŭ
75-35-4	1,1-Dichloroethene	1.0	Ū
67-64-1	Acetone	5.0	U
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	Ū
75-34-3	1,1-Dichloroethane	1.0	ט
156-59-2	cis-1,2-Dichloroethene	1.0	Ū
78-93-3	2-Butanone	5.0	Ū
67-66-3	Chloroform	1.0	Ū
71-55-6	1,1,1-Trichloroethane	1.0	Ŭ
56-23-5	Carbon tetrachloride	1.0	Ū
71-43-2	Benzene	1.0	υ
107-06-2	1,2-Dichloroethane	1.0	υ
79-01-6	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	ŭ
75-27-4	Bromodichloromethane	1.0	Ū
10061-01-	cis-1,3-Dichloropropene	1.0	ט
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-	trans-1,3-Dichloropropene	1.0	Ū
79-00-5	1,1,2-Trichloroethane	1.0	U
127-18-4	Tetrachloroethene	1.0	Ū
591-78-6	2-Hexanone	5.0	. ט
		0.44	

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT	SAMPLE	NO.	
070	40139		

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Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017155
Matrix: (SOIL/SED/WATER) Water	Lab Sample ID: IDA02-005
Sample wt/vol: 5.00 (g/mL) mL	
Level: (LOW/MED)	_ Date Collected: 04/21/2007
% Moisture: not dec.	Date/Time Analyzed: 04/25/2007 14:10
GC Column: DB-624 20m ID: 0.18 (mm	n) Dilution Factor: 1.0
Soil Extract Volume:(uL	) Soil Aliquot Volume:(uL)
Heated Purge: (Y/N) N	
CAS NO. COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/kg) ug/L
	1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
124-48-1	Dibromochloromethane	1.0	ט
108-90-7	Chlorobenzene	1.4	
100-41-4	Ethylbenzene	1.0	ם
179601-23	m,p-Xylene	2.0	U
95-47-6	o-Kylene	1.0	Ų
100-42-5	Styrene	1.0	ប
75-25-2	Bromoform	1.0	ָ ע
79-34-5	1,1,2,2-Tetrachloroethane	1.0	Ü

Comments:

MW 52807

CLIENT	SAMPLE	NO.
0.77	140125	

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017155
Matrix: (SOIL/SED/WATER) Water	Lab Sample ID: IDA02-007
Sample wt/vol: 5.00 (g/mL) mL	Lab File ID: Y0425020.D
Level: (LOW/MED)	Date Collected: 04/21/2007
% Moisture: not dec.	Date/Time Analyzed: 04/25/2007 14:35
GC Column: DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	1.0	U
74-87-3	Chloromethane	1.0	บ
75-01-4	Vinyl chloride	1.0	ប
74-83-9	Bromomethane	1.0	C
75-00-3	Chloroethane	1.0	Ū
75-69-4	Trichlorofluoromethane	1.0	Ū
75-35-4	1,1-Dichloroethene	1.0	U
67-64-1	Acetone	5.0	Ū
75-15-0	Carbon disulfide	1.0	Ū
75-09-2	Methylene chloride	1.0	Ū
156-60-5	trans-1,2-Dichloroethene	1.0	υ
75-34-3	1,1-Dichloroethane	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	Ū
78-93-3	2-Butanone	5.0	ប៊
67-66-3	Chloroform	1.0	ΰ
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	υ
71-43-2	Benzene	1.0	<u> </u>
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	Ū
78-87-5	1,2-Dichloropropane	1.0	บ
75-27-4	Bromodichloromethane	1.0	ט
10061-01-	cis-1,3-Dichloropropene	1.0	ប៊
108-10-1	4-Methyl-2-pentanone	5.0	U
108-88-3	Toluene	1.0	U
10061-02-	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	Ū
127-18-4	Tetrachloroethene	1.0	Ū
591-78-6	2-Hexanone	5.0	υ

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT	SAMPLE	NO.	
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070	40135		

Lab Name: <u>I</u>	Laucks Testing Laboratories, Inc.	Contract:	
SDG No.: IDA02		Run Sequence: R017155	
Matrix: (SO	DIL/SED/WATER) Water	Lab Sample ID: IDA02-007	
Sample wt/v	rol: 5.00 (g/mL) mL	Lab File ID: Y0425020.D	
Level: (LOW	I/MED)	Date Collected: 04/21/2007	
% Moisture:	not dec.	Date/Time Analyzed: 04/25/2007	14:35
GC Column:	DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0	
Soil Extrac	et Volume:(uL)	Soil Aliquot Volume:	(uL)
Heated Purg	ge: (Y/N) N		
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
124-48-1	Dibromochloromethane	1.0	ט

124-48-1	Dibromochloromethane	1.0	ָט
108-90-7	Chlorobenzene	1.0	U
100-41-4	Ethylbenzene	1.0	Ū
179601-23	m,p-Xylene	2.0	ט
95-47-6	o-Xylene	1.0	ΰ
100-42-5	Styrene	1.0	Ū
75-25-2	Bromoform	110	ט
79-34-5	1.1.2.2-Tetrachloroethane	1.0	ט

Comments:

MN 528-87

# VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT	SAMPLE	NO.	
070	40140		
0,70	7-01-0		

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017155
Matrix: (SOIL/SED/WATER) Water	Lab Sample ID: IDA02-006
Sample wt/vol: 5.00 (g/mL) mL	Lab File ID: Y0425023.D
Level: (LOW/MED)	Date Collected: 04/21/2007
% Moisture: not dec.	Date/Time Analyzed: 04/25/2007 15:49
GC Column: DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
Heated Purge: (Y/N) N	

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Ď
75-71-8	Dichlorodifluoromethane	1.0	ซ
74-87-3	Chloromethane	1.0	υ
75-01-4	Vinyl chloride	1.0	ט
	Bromomethane	1.0	U J
74-83-9	Chloroethane	1.0	Ū
75-00-3	Trichlorofluoromethane	1.0	υ
75-69-4	1,1-Dichloroethene	1.0	ט
75-35-4		5.0	Ū
67-64-1	Acetone Carbon disulfide	1.0	Ü
75-15-0		1.0	U
75-09-2	Methylene chloride	1.0	Ū
156-60-5	trans-1,2-Dichloroethene	1.0	Ū
75-34-3	1,1-Dichloroethane	1.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	σ
78-93-3	2-Butanone	1.0	U
67-66-3	Chloroform	1.0	Ū
71-55-6	1,1,1-Trichloroethane		ט
56-23-5	Carbon tetrachloride	1.0	<u>"</u>
71-43-2	Benzene	1.0	ט
107-06-2	1,2-Dichloroethane	1.0	
79-01-5	Trichloroethene	1.0	U
78-87-5	1,2-Dichloropropane	1.0	<u>ט</u>
75-27-4	Bromodichloromethane	1.0	Ü
10061-01-	cis-1,3-Dichloropropene	1.0	บ
108-10-1	4-Methyl-2-pentanone	5.0	Ŭ
108-88-3	Toluene	1.0	Ū
10061-02-	trans-1,3-Dichloropropene	1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	ט
127-18-4	Tetrachloroethene	1.0	ט
591-78-6	2-Hexanone	5.0	Ū
23T-19-0	S. Personal Property of the Personal Property		•

MW VOR-1885

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TOTATILE	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT	SAMPLE	NO.	
070	40140		

Lab Name: La	nucks Testing Laboratories, Inc.		
SDG No.: IDA	.02	Run Sequence: R017155	
	L/SED/WATER) Water	Lab Sample ID: IDA02-006	
	]: 5.00 (g/mL) mL	Lab File ID: Y0425023.D	
_	MED)	Date Collected: 04/21/2007	
	not dec.	Date/Time Analyzed: 04/25/200	7 15:49
	DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0	
	Volume: (uL)	Soil Aliquot Volume:	(nF)
and the second s	e: (Y/N) <u>N</u>		
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
1.24-48-1	Dibromochloromethane	1.0	Ŭ
108-90-7	Chlorobenzene	3.6	
100-41-4	Ethylbenzene	1.0	υ
179601-23	m,p-Xylene	2.0	Ū
95-47-6	o-Xylene	1.0	<u> </u>
1.00-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	Ū
15-45-4			**

79-34-5 Comments:

75-25-2

1,1,2,2-Tetrachloroethane

07040141

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017155
Matrix: (SOIL/SED/WATER) Water	Lab Sample ID: IDA02-008
Sample wt/vol: 5.00 (g/mL) mL	Lab File ID: Y0425021.D
Level: (LOW/MED)	Date Collected: 04/21/2007
% Moisture: not dec.	Date/Time Analyzed: 04/25/2007 15:00
GC Column: DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
Heated Purge: (Y/N) N	

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	1.0	Ū
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	ט
74-83-9	Bromomethane	1.0	υJ
75-00-3	Chloroethane	1.0	ΰ
75-69-4	Trichlorofluoromethane	1.0	ָט
75-35-4	1,1-Dichloroethene	1.0	Ū
67-64-1	Acetone	1.6	J
75-15-0	Carbon disulfide	1.0	Ū
75-09-2	Methylene chloride	1.0	Ū
156-60-5	trans-1,2-Dichloroethene	1.0	Ū
75-34-3	1,1-Dichloroethane	1.0	ប
156-59-2	cis-1,2-Dichloroethene	1.0	. U
78-93-3	2-Butanone	5,0	ט
67-66-3	Chloroform	1.0	Ū
71-55-6	1,1,1-Trichloroethane	1.0	U
56-23-5	Carbon tetrachloride	1.0	U
71-43-2	Benzene	1.0	U
107-06-2	1,2-Dichloroethane	. 1.0	U
79-01-6	Trichloroethene	1.0	ָּט
78-87-5	1,2-Dichloropropane	1.0	Ü
75-27-4	Bromodichloromethane	1.0	U
10061-01-	cis-1,3-Dichloropropene	1.0	U
108-10-1	4-Methyl-2-pentanone	5.0	ΰ
108-88-3	Toluene	1.0	U
10061-02-	trans-1,3-Dichloropropene	1.0	ט
79-00-5	1,1,2-Trichloroethane	1.0	ט
127-18-4	Tetrachloroethene	1.0	Ū
591-78-6	2-Hexanone	5.0	ש

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET	

CLIENT	SAMPLE	NO.	
070	040141		

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017155
Matrix: (SOIL/SED/WATER) Water	Lab Sample ID: IDA02-008
Sample wt/vol: 5.00 (g/mL) mL	Lab File ID: Y0425021.D
Level: (LOW/MED)	Date Collected: 04/21/2007
% Moisture: not dec.	Date/Time Analyzed: 04/25/2007 15:00
GC Column: DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
Heated Purge: (Y/N) N	
CAS NO. COMPOUND	CONCENTRATION UNITS:

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
124-48-1	Dibromochloromethane	1.0	ס
108-90-7	Chlorobenzene	1.0	ט
100-41-4	Ethylbenzene	1.0	ΰ
179601-23	m,p-Xylene	2.0	ַ ט
95-47-6	o-Xylene	1.0	Ü
100-42-5	Styrene	1.0	ט
75-25-2	Bromoform	1.0	ט
79-34-5	1,1,2,2-Tetrachloroethane	1.0	Ū

Comments:

MW 578-01

07040142

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Lab Name: La	ucks Testing Laboratories, Inc.	Contract:	
SDG No.: IDA	.02	Run Sequence: R017155	
	L/SED/WATER) Water	Lab Sample ID: IDA02-009	
and the second s		Lab File ID: Y0425022.D	•
Sample wt/vo	1: 5.00 (g/ml) mL		
Level: (LOW/	MED)	Date Collected: 04/21/2007	
% Moisture:	not dec.	Date/Time Analyzed: 04/25/200	17 15:24
GC Column:	DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0	
	Volume: (vi)	Soil Aliquot Volume:	(고단)
	:: (Y/N) N		
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethans	1.0	U
74-87-3	Chloromethane	1.0	บ
75-01-4	Vinyl chloride	1.0	U
74-83-9	Bromomethane	1.0	v 🔿
75-00-3	Chloroethane	1.0.	ט
75-69-4	Trichlorofluoromethane	1.0	U
75-35-4	1,1-Dichloroethene	1.0	ט
67-64-1	Acetone	5.0	ט
75-15-0	Carbon disulfide	1.0	U
75-09-2	Methylene chloride	1.0	Ū
156-6D-5	trans-1,2-Dichloroethene	1.0	Ū
75-34-3	1,1-Dichloroethane	1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	ט
78-93-3	2-Butanone	5.0	Ū
67-66-3	Chloroform	1.0	ប
71-55-6	1,1,1-Trichloroethane	1.0	ט
56-23-5	Carbon tetrachloride	1.0	U
71-43-2	Benzene	1.0	ט
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	ט
78-87-5	1,2-Dichloropropane	10	<u> </u>
75-27-4	Bromodichloromethane	1.0	U
10061-01-	cis-1,3-Dichloropropene	1.0	Ü
108-10-1	4-Methyl-2-pentanone	5.0	Ü
100 00 3	Toluene	1.0	ט

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MW 528-07

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2-Hexanone

Tetrachloroethene

10061-02-

79-00-5

127-18-4

591-78-6

trans-1,3-Dichloropropene

1,1,2-Trichloroethane

<u>1</u>						
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CLIENT SAMPLE NO.

07040142

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017155
Matrix: (SOIL/SED/WATER) Water	Lab Sample ID: IDA02-009
Sample wt/vol: $5.00$ (g/mL) mL	Lab File ID: <u>Y0425022.D</u>
Level: (LOW/MED)	Date Collected: 04/21/2007
% Moisture: not dec.	Date/Time Analyzed: 04/25/2007 15:24
GC Column: DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume: (uL)
Heated Purge: (Y/N) N	
Proceedings of the control of the co	

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Ď
124-48-1	Dibromochloromethane	1.0	Ū
108-90-7	Chlorobenzene	1.0	Ū
100-41-4	Ethylbenzene	1.0	Ū
179601-23	m,p-Xylene	2.0	Ū
95-47-6	o-Xylene	1.0	Ū
100-42-5	Styrene	1.0	U
75-25-2	Bromoform	1.0	Ü
79-34-5	1,1,2,2-Tetrachloroethane	1.0	Ū

Comments:

MV 5260)

	CLIENT	SAMPLE	NO.	·
_	0.77	140120		
	. 070	040130		

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017155
Matrix: (SOIL/SED/WATER) Water	Lab Sample ID: IDA02-010
Sample wt/vol: 5.00 (g/mL) mL	Lab File ID: Y0425010.D
Level: (LOW/MED)	Date Collected: 04/20/2007
% Moisture: not dec.	Date/Time Analyzed: 04/25/2007 10:30
GC Column: DB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
Heated Purge: (Y/N) N	

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
75-71-8	Dichlorodifluoromethane	1.0	Ū
74-87-3	Chloromethane	1.0	U
75-01-4	Vinyl chloride	1.0	Ū
74-83-9	Bromomethane	1.0	Ū, J
75-00-3	Chloroethane	1.0	Ū
75-69-4	Trichlorofluoromethane	1.0	ŭ
	1,1-Dichloroethene	1.0	U
75-35-4	Acetone	5.0	• ਹ
67-64-1	Carbon disulfide	1.0	ט
75-15-0	Methylene chloride	1.0	U
75-09-2	trans-1,2-Dichloroethene	1.0	Ū
156-60-5	1,1-Dichloroethane	1.0	Ū
75-34-3	cis-1,2-Dichloroethene	1.0	บ
156-59-2		5.0	. 0
78-93-3	2-Butanone	1.0	Ū
67-66-3	Chloroform	1.0	ט
71-55-6	1,1,1-Trichloroethane	1.0	ט
56-23-5	Carbon tetrachloride	1.0	υ
71-43-2	Benzene	1.0	Ū
107-06-2	1,2-Dichloroethane	1.0	U
79-01-6	Trichloroethene	1.0	ט
78-87-5	1,2-Dichloropropane	1.0	U
75-27-4	Bromodichloromethane	1.0	ט
10061-01-	cis-1,3-Dichloropropene	5.0	U
108-10-1	4-Methyl-2-pentanone		U
108-88-3	Toluene	1.0	Ū
10061-02-	trans-1,3-Dichloropropene	1.0	<del>                                     </del>
79-00-5	1,1,2-Trichloroethane	1.0	Ū
127-18-4	Tetrachloroethene	1.0	1 0
591-78-6	2-Hexanone	5.0	1 0

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT	SAMPLE	NO
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Lab Name: <u>La</u>	ucks Testing Laboratories, Inc.	Contract:	***************************************
SDG No.: IDA	02	Run Sequence: R017155	
Matrix: (SOII	L/SED/WATER) Water	Lab Sample ID: IDA02-010	
Sample wt/vol	1; 5.00 (g/mL) mL	Lab File ID: Y0425010.D	
Level: (LOW/N	MED)	Date Collected: 04/20/2007	
% Moisture: 1	not dec.	Date/Time Analyzed: 04/25/2007	10:30
GC Column: D	B-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0	
Soil Extract	Volume:(uL)	Soil Aliquot Volume:	(uL)
Heated Purge:	Y/N) <u>N</u>		
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q
124-48-1	Dibromochloromethane	1.0	Ū
108-90-7	Chlorobenzene	1.0	บ
100-41-4	Ethylbenzene	1.0	Ù
179601-23	m,p-Xylene	2.0	ט
95-47-6	o-Xylene	1.0	ט
100-42-5	Styrene	1.0	ט
75-25-2	Bromoform	1.0	υ
79-34-5	1,1,2,2-Tetrachloroethane	1.0	ט

79-34-5 Comments: 1,1,2,2-Tetrachloroethane

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WATER	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT	SAMPLE	NO.	
070			

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017229
Matrix: (SOIL/SED/WATER) Soil	Lab Sample ID: IDA02-011
Sample wt/vol: 5.14 (g/mL) gm	Lab File ID: Y0426022.D
Level: (LOW/MED)	Date Collected: 04/16/2007
% Moisture: not dec. 10.4	Date/Time Analyzed: 04/26/2007 16:42
GC Column: ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume: (uL)	Soil Aliquot Volume:(uL)
The stand Daywood (V/W) V	

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Ω
75-71-8	Dichlorodifluoromethane	3.3	<u>"</u> "
74-87-3	Chloromethane	3.3	Ū
75-01-4	Vinyl chloride	3.3	Ū
74-B3-9	Bromomethane	3.3	ַ עַ
75-00-3	Chloroethane	3.3	Ü
75-69-4	Trichlorofluoromethane	3.3	Ü
75~35-4	1,1-Dichloroethene	3.3	Ü
67-64-1	Acetone	85	TAMU
75-15-0	Carbon disulfide	3.3	ט
75-09-2	Methylene chloride	3.3	U ·
156~60-5	trans-1,2-Dichloroethene	3.3	Ü
75-34-3	1,1-Dichloroethane	3.3	Ū
156-59-2	cis-1,2-Dichloroethene	3.3	Ü
78-93-3	2-Butanone	24	2
67-66-3	Chloroform	3.3	ט
71-55-6	1,1,1-Trichloroethane	3.3	Ū
56-23-5	Carbon tetrachloride	3.3	U U
71-43-2	Benzene	5.9	1
107-06-2	1,2-Dichloroethane	3.3	U
79-01-6	Trichloroethene	3.3	Ū
78-87-5	1,2-Dichloropropane	3.3	υ
75-27-4	Bromodichloromethane	3.3	υ
10061-01-	cis-1,3-Dichloropropene	3.3	U .
108~10~1	4-Methyl-2-pentanone	11	Ū
108-88-3	Toluene	17	1
10061-02-	trans-1,3-Dichloropropene	3.3	υ
79-00-5	1,1,2-Trichloroethane	3.3	υ
127-18-4	Tetrachloroethene	3.3	ש
591-78-6	2-Hexanone	6.0	· J

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まれてで 4.1のひ	ORGANICS	ANALYSIS	DATA	SHEET	

 CLIENT	SAMPLE	NO.	
070	40101		

		<del></del>
Lab Name: Li	aucks Testing Laboratories, Inc.	Contract:
SDG No.: ID	102	Run Sequence: R017229
Matrix: (SOI	L/SED/WATER) Soil	Lab Sample ID: IDA02-011
	ol: 5.14 (g/mL) gm	Lab File ID: Y0426022.D
	MED)	Date Collected: 04/16/2007
	not dec10.4	Date/Time Analyzed: 04/26/2007 16:42
	ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
·.	Volume:(uL)	Soil Aliquot Volume: (uL)
	e: (Y/N) <u>Y</u>	
CAS NO.	COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/kg) ug/kg
124-48-1	Dibromochloromethane	3.3
308-90-7	Chlorobenzene	3.3
100-41-4	Ethylbenzene	2.7 Ј
179601-23	m,p-Xylene	7.1
95-47-6	o-Xylene	4.0
100-42-5	Styrene	2.8 J
75-25-2	Bromoform	3.3 U

3.3

Comments:

79-34-5

1,1,2,2-Tetrachloroethane

MW 50000 VOM-=1491

CLIENT	SAMPLE	NC

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U	7	v	4	v	1	u	

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017229
Matrix: (SOIL/SED/WATER) Soil	Lab Sample ID: IDA02-012
Sample wt/vol: 5.76 (g/mL) gm	Lab File ID: Y0426023.D
Level: (LOW/MED)	Date Collected: 04/17/2007
% Moisture: not dec. 33.2	Date/Time Analyzed: 04/26/2007 17:08
GC Column: ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
Heated Purge: (Y/N) Y	

75-71-8         Dichlorodifluoromethane         3.9         U           74-87-3         Chloromethane         3.9         U           75-01-4         Vinyl chloride         3.9         U           74-83-9         Bromomethane         3.9         U           75-00-3         Chloroethane         3.9         U           75-69-4         Trichlorofluoromethane         3.9         U           75-35-4         1,1-Dichloroethene         3.9         U           67-64-1         Acetone         130         Image: Comparity of the comparity of	CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
175-01-4   Vinyl chloride   3.9   U	75-71-8	Dichlorodifluoromethane	3.9	UJ
75-01-14	74-87-3	Chloromethane	3.9	Ū
75-00-3 Chloroethane 3.9 U 75-69-4 Trichlorofluoromethane 3.9 U 75-69-4 Trichloroethene 3.9 U 75-85-4 1,1-Dichloroethene 3.9 U 75-15-4 1,1-Dichloroethene 3.9 U 75-15-0 Carbon disulfide 3.9 U 75-09-2 Methylene chloride 5.1 156-60-5 trans-1,2-Dichloroethene 3.9 U 75-34-3 1,1-Dichloroethane 3.9 U 75-34-3 1,1-Dichloroethane 3.9 U 76-93-3 2-Butanone 21 76-66-3 Chloroform 3.9 U 71-55-6 1,1,1-Trichloroethane 3.9 U 71-43-2 Benzene 3.9 U 107-06-2 1,2-Dichloroethane 3.9 U 107-06-2 1,2-Dichloroethane 3.9 U 107-06-2 1,2-Dichloroethane 3.9 U 107-06-2 1,2-Dichloroethane 3.9 U 107-06-1 Trichloroethane 3.9 U 107-01-6 Trichloroethane 3.9 U 108-87-5 1,2-Dichloroethane 3.9 U 108-88-3 Toluene 3.9 U 108-88-3 Toluene 3.9 U 108-88-3 Toluene 3.9 U 109-00-5 1,1,2-Trichloroethane 3.9 U 10061-02- trans-1,3-Dichloropropene 3.9 U 10061-04 Tetrachloroethane 3.9 U 10061-05 1,1,2-Trichloroethane 3.9 U 10061-06-07 Trans-1,3-Dichloropropene 3.9 U 10061-08-8-3 Toluene 3.9 U 10061-09-5 1,1,2-Trichloroethane 3.9 U	75-01-4	Vinyl chloride	3.9	Ū
75-69-4	74-83-9	Bromomethane	3.9	U
75-35-4 1,1-Dichloroethene 3.9 U 67-64-1 Acetone 130 75-15-0 Carbon disulfide 3.9 U 75-09-2 Methylene chloride 5.1 156-60-5 trans-1,2-Dichloroethene 3.9 U 75-34-3 1,1-Dichloroethane 3.9 U 156-59-2 cis-1,2-Dichloroethene 3.9 U 78-93-3 2-Butanone 21 67-66-3 Chloroform 3.9 U 71-55-6 1,1,1-Trichloroethane 3.9 U 71-43-2 Benzene 3.9 U 107-06-2 1,2-Dichloroethane 3.9 U 107-06-2 1,2-Dichloroethane 3.9 U 77-52-4 Bromodichloroethane 3.9 U 78-87-5 1,2-Dichloroethane 3.9 U 1061-01- cis-1,3-Dichloropropene 3.9 U 108-88-3 Toluene 3.9 U 108-88-3 Toluene 3.9 U 109-00-5 1,1,2-Trichloroethane 3.9 U 100-00-5 1,1,2-Trichloroethane 3.9 U 100-00-5 1,1,2-Trichloropropene 3.9 U 100-00-5 1,1,2-Trichloroethane 3.9 U 100-00-5 1,1,2-Trichloroethane 3.9 U 100-00-5 1,1,2-Trichloroethane 3.9 U 100-00-5 1,1,2-Trichloroethane 3.9 U 100-10-10-1 Trichloroethane 3.9 U 100-10-10-10-10-10-10-10-10-10-10-10-10-	75-00-3	Chloroethane	3.9	Ü
67-64-1       Acetone       130         75-15-0       Carbon disulfide       3.9       U         75-09-2       Methylene chloride       5.1         156-60-5       trans-1,2-Dichloroethene       3.9       U         75-34-3       1,1-Dichloroethane       3.9       U         156-59-2       cis-1,2-Dichloroethene       3.9       U         76-93-3       2-Butanone       21         67-66-3       Chloroform       3.9       U         71-55-6       1,1,1-Trichloroethane       3.9       U         71-43-2       Benzene       3.9       U         107-06-2       1,2-Dichloroethane       3.9       U         79-01-6       Trichloroethene       3.9       U         78-87-5       1,2-Dichloropropane       3.9       U         75-27-4       Bromodichloromethane       3.9       U         108-10-1       4-Methyl-2-pentanone       13       U         108-88-3       Toluene       3.9       U         10061-02-       trans-1,3-Dichloropropene       3.9       U         79-00-5       1,1,2-Trichloroethane       3.9       U         127-18-4       Tetrachloroethane       3.9	75-69-4	Trichlorofluoromethane	3.9	Ū
75-15-0 Carbon disulfide 3.9 U 75-09-2 Methylene chloride 5.1  156-60-5 trans-1,2-Dichloroethene 3.9 U 75-34-3 1,1-Dichloroethene 3.9 U 156-59-2 cis-1,2-Dichloroethene 3.9 U 78-93-3 2-Butanone 21 67-66-3 Chloroform 3.9 U 71-55-6 1,1,1-Trichloroethane 3.9 U 71-43-2 Benzene 3.9 U 107-06-2 1,2-Dichloroethane 3.9 U 107-06-2 1,2-Dichloroethane 3.9 U 78-87-5 1,2-Dichloroethane 3.9 U 78-87-5 1,2-Dichloroethene 3.9 U 78-27-4 Bromodichloromethane 3.9 U 10061-01- cis-1,3-Dichloropropene 3.9 U 108-88-3 Toluene 3.9 U 108-88-3 Toluene 3.9 U 109-00-5 1,1,2-Trichloroethane 3.9 U 107-00-5 1,1,2-Trichloroethane 3.9 U 107-18-4 Tetrachloroethane 3.9 U	75-35-4	1,1-Dichloroethene	3.9	Ū
75-19-0 Carbon districe	67-64-1	Acetone	130	Mary
156-60-5	75-15-0	Carbon disulfide	3.9	Ű
75-34-3         1,1-Dichloroethane         3.9         U           156-59-2         cis-1,2-Dichloroethene         3.9         U           76-93-3         2-Butanone         21           67-66-3         Chloroform         3.9         U           71-55-6         1,1,1-Trichloroethane         3.9         U           56-23-5         Carbon tetrachloride         3.9         U           71-43-2         Benzene         3.9         U           107-06-2         1,2-Dichloroethane         3.9         U           79-01-6         Trichloroethene         3.9         U           75-27-4         Bromodichloromethane         3.9         U           108-10-1         cis-1,3-Dichloropropene         3.9         U           108-88-3         Toluene         3.9         U           10061-02-         trans-1,3-Dichloropropene         3.9         U           79-00-5         1,1,2-Trichloroethane         3.9         U           127-18-4         Tetrachloroethene         3.9         U	75-09-2	Methylene chloride	5.1	
75-34-3       1,1-Dichloroethane       3.9       U         78-93-3       2-Butanone       21         67-66-3       Chloroform       3.9       U         71-55-6       1,1,1-Trichloroethane       3.9       U         56-23-5       Carbon tetrachloride       3.9       U         71-43-2       Benzene       3.9       U         107-06-2       1,2-Dichloroethane       3.9       U         79-01-6       Trichloroethene       3.9       U         78-87-5       1,2-Dichloropropane       3.9       U         75-27-4       Bromodichloromethane       3.9       U         108-10-1       cis-1,3-Dichloropropene       3.9       U         108-88-3       Toluene       3.9       U         10061-02-       trans-1,3-Dichloropropene       3.9       U         79-00-5       1,1,2-Trichloroethane       3.9       U         127-18-4       Tetrachloroethene       3.9       U	156-60-5	trans-1,2-Dichloroethene	3.9	U
78-93-3         2-Butanone         21           67-66-3         Chloroform         3.9         U           71-55-6         1,1,1-Trichloroethane         3.9         U           56-23-5         Carbon tetrachloride         3.9         U           71-43-2         Benzene         3.9         U           107-06-2         1,2-Dichloroethane         3.9         U           79-01-6         Trichloroethene         3.9         U           78-87-5         1,2-Dichloropropane         3.9         U           75-27-4         Bromodichloromethane         3.9         U           108-10-1         cis-1,3-Dichloropropene         3.9         U           108-88-3         Toluene         3.9         U           10061-02-         trans-1,3-Dichloropropene         3.9         U           79-00-5         1,1,2-Trichloroethane         3.9         U           127-18-4         Tetrachloroethene         3.9         U	75-34-3	1,1-Dichloroethane	3.9	Ū
67-66-3       Chloroform       3.9       U         71-55-6       1,1,1-Trichloroethane       3.9       U         56-23-5       Carbon tetrachloride       3.9       U         71-43-2       Benzene       3.9       U         107-06-2       1,2-Dichloroethane       3.9       U         79-01-6       Trichloroethene       3.9       U         78-87-5       1,2-Dichloropropane       3.9       U         75-27-4       Bromodichloromethane       3.9       U         108-10-1       cis-1,3-Dichloropropene       3.9       U         108-88-3       Toluene       3.9       U         10061-02-       trans-1,3-Dichloropropene       3.9       U         79-00-5       1,1,2-Trichloroethane       3.9       U         127-18-4       Tetrachloroethene       3.9       U	156-59-2	cis-1,2-Dichloroethene	3.9	U
71-55-6       1,1,1-Trichloroethane       3.9       U         56-23-5       Carbon tetrachloride       3.9       U         71-43-2       Benzene       3.9       U         107-06-2       1,2-Dichloroethane       3.9       U         79-01-6       Trichloroethene       3.9       U         78-87-5       1,2-Dichloropropane       3.9       U         75-27-4       Bromodichloromethane       3.9       U         10061-01-       cis-1,3-Dichloropropene       3.9       U         108-88-3       Toluene       3.9       U         10061-02-       trans-1,3-Dichloropropene       3.9       U         79-00-5       1,1,2-Trichloroethane       3.9       U         127-18-4       Tetrachloroethene       3.9       U	78-93-3	2-Butanone	21	
71-55-6       1,1,1-11tchtoroechane       3.9       U         56-23-5       Carbon tetrachloride       3.9       U         71-43-2       Benzene       3.9       U         107-06-2       1,2-Dichloroethane       3.9       U         79-01-6       Trichloroethene       3.9       U         78-87-5       1,2-Dichloropropane       3.9       U         75-27-4       Bromodichloromethane       3.9       U         10061-01-       cis-1,3-Dichloropropene       3.9       U         108-88-3       Toluene       3.9       U         10061-02-       trans-1,3-Dichloropropene       3.9       U         79-00-5       1,1,2-Trichloroethane       3.9       U         127-18-4       Tetrachloroethene       3.9       U	67-66-3	Chloroform	3.9	Ü
71-43-2       Benzene       3.9       U         107-06-2       1,2-Dichloroethane       3.9       U         79-01-6       Trichloroethene       3.9       U         78-87-5       1,2-Dichloropropane       3.9       U         75-27-4       Bromodichloromethane       3.9       U         10061-01-       cis-1,3-Dichloropropene       3.9       U         108-88-3       Toluene       13       U         10061-02-       trans-1,3-Dichloropropene       3.9       U         79-00-5       1,1,2-Trichloroethane       3.9       U         127-18-4       Tetrachloroethene       3.9       U	71-55-6	1,1,1-Trichloroethane	3.9	U
71-43-2       Belizelle       3.9       U         107-06-2       1,2-Dichloroethane       3.9       U         79-01-6       Trichloroethene       3.9       U         78-87-5       1,2-Dichloropropane       3.9       U         75-27-4       Bromodichloromethane       3.9       U         10061-01-       cis-1,3-Dichloropropene       3.9       U         108-10-1       4-Methyl-2-pentanone       13       U         108-88-3       Toluene       3.9       U         10061-02-       trans-1,3-Dichloropropene       3.9       U         79-00-5       1,1,2-Trichloroethane       3.9       U         127-18-4       Tetrachloroethene       3.9       U	56-23-5	Carbon tetrachloride	3.9	Ū
79-01-6       Trichloroethene       3.9       U         78-87-5       1,2-Dichloropropane       3.9       U         75-27-4       Bromodichloromethane       3.9       U         10061-01-       cis-1,3-Dichloropropene       3.9       U         108-10-1       4-Methyl-2-pentanone       13       U         108-88-3       Toluene       3.9       U         10061-02-       trans-1,3-Dichloropropene       3.9       U         79-00-5       1,1,2-Trichloroethane       3.9       U         127-18-4       Tetrachloroethene       3.9       U	71-43-2	Benzene	3.9	U
78-87-5       1,2-Dichloropropane       3.9       U         75-27-4       Bromodichloromethane       3.9       U         10061-01-       cis-1,3-Dichloropropene       3.9       U         108-10-1       4-Methyl-2-pentanone       13       U         108-88-3       Toluene       3.9       U         10061-02-       trans-1,3-Dichloropropene       3.9       U         79-00-5       1,1,2-Trichloroethane       3.9       U         127-18-4       Tetrachloroethene       3.9       U	107-06-2	1,2-Dichloroethane	3.9	U
75-27-4       Bromodichloromethane       3.9       U         10061-01-       cis-1,3-Dichloropropene       3.9       U         108-10-1       4-Methyl-2-pentanone       13       U         108-88-3       Toluene       3.9       U         10061-02-       trans-1,3-Dichloropropene       3.9       U         79-00-5       1,1,2-Trichloroethane       3.9       U         127-18-4       Tetrachloroethene       3.9       U	79-01-6	Trichloroethene	3.9	U
10061-01-   cis-1,3-Dichloropropene   3.9   U	78-87-5	1,2-Dichloropropane	3.9	, U
10061-01-       CIS-1,3-Dichloropropene       3.9       U         108-88-3       Toluene       3.9       U         10061-02-       trans-1,3-Dichloropropene       3.9       U         79-00-5       1,1,2-Trichloroethane       3.9       U         127-18-4       Tetrachloroethene       3.9       U	75-27-4	Bromodichloromethane	3.9	U
108-10-1       4-Methyl-2-pentanone       13       U         108-88-3       Toluene       3.9       U         10061-02-       trans-1,3-Dichloropropene       3.9       U         79-00-5       1,1,2-Trichloroethane       3.9       U         127-18-4       Tetrachloroethene       3.9       U	10061-01-	cis-1,3-Dichloropropene	3.9	U
108-88-3       Toluene       3.9       U         10061-02-       trans-1,3-Dichloropropene       3.9       U         79-00-5       1,1,2-Trichloroethane       3.9       U         127-18-4       Tetrachloroethene       3.9       U	108-10-1	4-Methyl-2-pentanone	13	Ū
79-00-5       1,1,2-Trichloroethane       3.9       U         127-18-4       Tetrachloroethene       3.9       U	108-88-3		3.9	Ü
79-00-5         1,1,2-Trichloroethane         3.9         U           127-18-4         Tetrachloroethene         3.9         U	10061-02-	trans-1,3-Dichloropropene	3.9	U
127-18-4 Tetrachloroethene 3.9 U	79-00-5	· · · · · · · · · · · · · · · · · · ·	3.9	Ü
591-78-6 2-Hexanone 13 U	127-18-4		3.9	U
	591-78-6	2-Hexanone	13	ŭ

MV 5780

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET	

CLIENT	SAMPLE	NO.	
	-		
. 070	140103		

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Lab Name: Lab	aucks Testing Laboratories, Inc.	Contract:	•
SDG No.: IDA	A02	Run Sequence: R017229	
Matrix: (SOI	L/SED/WATER) Soil	Lab Sample ID: IDA02-012	
Sample wt/vo	ol: 5.76 (g/mL) gm	Lab File ID: Y0426023.D	
Level: (LOW/	MED>	Date Collected: 04/17/2007	
's Moisture:	not dec. <u>33.2</u>	Date/Time Analyzed: 04/26/2007	17:08
GC Column:	ZB-624_20m ID: 0.18 (mm)	Dilution Factor: 1.0	
Soil Extract	Volume:(uL)	Soil Aliquot Volume:	(uL)
Heated Purge	: (Y/N) <u>Y</u>		
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Ď.
124-48-1	Dibromochloromethane	3.9	ע
108-90-7	Chlorobenzene	3.9	Ū
100-41-4	Ethylbenzene	3.8	J .
179601-23	m,p-Xylene	7.8	U
95-47-6	o-Xylene	3.5	J
100-42-5	Styrene	3.9	υ

3.9

3.9

79-34-5 Comments:

75-25-2

Bromoform

1,1,2,2-Tetrachloroethane

MN 52267

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CLIENT	SAMPLE	NO.	
070	140107		

Lab Name: _	Laucks Testing Laboratories, Inc.	Contract:	
SDG No.: I	DA02	Run Sequence: R017229	
Matrix: (SC	OIL/SED/WATER) Soil	Lab Sample ID: IDA02-013	
Sample wt/v	vol: 5.68 (g/mL) gm	Lab File ID: Y0426024.D	
Level: (LOW	V/MED)	Date Collected: 04/17/2007	
% Moisture:	not dec. 31.8	Date/Time Analyzed: 04/26/2007	17:33
GC Column:	ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0	
Soil Extrac	et Volume: (uL)	Scil Aliquot Volume:	_(uL)
Heated Purg	ge: (Y/N) <u>Y</u>		
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	3.9	U 2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg ug/kg	Q
75-71-8	Dichlorodifluoromethane	3.9	u <u>Т</u>
74-87-3	Chloromethane	3.9	U
75-01-4	Vinyl chloride	3.9	ָד ט 🕽
74-83-9	Bromomethane	3.9	U 🗍
75-00-3	Chloroethane	3.9	Ū .
75-69-4	Trichlorofluoromethane	3.9	υ
75-35-4	1,1-Dichloroethene	3.9	U
67-64-1	Acetone	93	-Synu
75-15-0	Carbon disulfide	3.5	υ
75-09-2	Methylene chloride	3.5	งั
156-60-5	trans-1,2-Dichloroethene	3.9	U
75-34-3	1,1-Dichloroethane	3.9	Ū
156-59-2	cis-1,2-Dichloroethene	3.9	ט
78-93-3	2-Butanone	1.7	·
67-66-3	Chloroform	3.9	Ū
71-55-6	1,1,1-Trichloroethane	3.9	ט
56-23-5	Carbon tetrachloride	3.9	Ū
71-43-2	Benzene	3.9	U
107-06-2	1,2-Dichloroethane	3.9	Ū
79-01-6	Trichloroethene	3.9	บ
78-87-5	1,2-Dichloropropane	3.9	ŭ
75-27-4	Bromodichloromethane	3.9	Ū
10061-01-	cis-1,3-Dichloropropene	3.9	ט
108-10-1	4-Methyl-2-pentanone	13	ט
108-88-3	Toluene	3.9	ប
10061-02-	trans-1,3-Dichloropropene	3.9	Ū
79-00-5	1,1,2-Trichloroethane	3.9	Ü
127-18-4	Tetrachloroethene	3.9	ט
591-78-6	2-Hexanone	13	Ü

MW 5782)

VØA"-182

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT	SAMPLE	NO.	
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070	040107		

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Lab Name: 1	aucks Testing Laboratories, Inc.	Contract:	
SDG No.: II	)A02	Run Sequence: R017229	
Matrix: (SO	IL/SED/WATER) Soil	Lab Sample ID: IDA02-013	
Sample wt/v	ol: 5.68 (g/mI) gm	Lab File ID: Y0426024.D	
Level: (LOW	/MED)	Date Collected: 04/17/2007	·
% Moisture:	not dec. 31.8	Date/Time Analyzed: 04/26/2007	17:33
GC Column:	ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0	
Soil Extrac	t Volume: (uL)	Soil Aliquot Volume:	(uL)
Heated Purg	e: (Y/N) <u>Y</u>		
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
124-48-1	Dibromochloromethane	3.9	Ū
108-90-7	Chlorobenzene	3.9	ប
100-41-4	Ethylbenzene	3.9	Ü

7.7

3.9

3.9

3.9

3.9

79-34-5 Comments:

179601-23

95-47~6

100-42-5

75-25-2

m,p-Xylene

o-Xylene

Bromoform

1,1,2,2-Tetrachloroethane

Styrene

		L.		
VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT	SAMPLE	NO.	
		-	
070	40109		

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017229
Matrix: (SOIL/SED/WATER) Soil	Lab Sample ID: IDA02-014
Sample wt/vol: 5.88 (g/mL) gm	Lab File ID: Y0426025.D
Level: (LOW/MED)	Date Collected: 04/18/2007
% Moisture: not dec. 0.0	Date/Time Analyzed: 04/26/2007 17:59
GC Column: ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
	Soil Aliquot Volume: (uL)
77 /77 Y	

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	2.6	ップ
74-87-3	Chloromethane	2.6	Ū
75-01-4	Vinyl chloride	2.6	U
74-83-9	Bromomethane	2.6	ָ ט ב
75-00-3	Chloroethane	2.6	ប
75-69-4	Trichlorofluoromethane	2.6	U
75-35-4	1,1-Dichloroethene	2.6	υ
67-64-1	Acetone	-130 pu 166	-BTi U
75-15-0	Carbon disulfide	3.1	
75-09-2	Methylene chloride	2.6	ט
156-60-5	trans-1,2-Dichloroethene	2.6	Ŭ
75-34-3	1,1-Dichloroethane	2.6	Ū
156-59-2	cis-1,2-Dichloroethene	2.6	U
78-93-3	2-Butanone	29	
67-66-3	Chloroform	2.6	Ū
71-55-6	1,1,1-Trichloroethane	2.6	ਧ
56-23-5	Carbon tetrachloride	2.6	υ
71-43-2	Benzene	2.6	Ū
107-06-2	1,2-Dichloroethane	2.6	ਧ
79-01-6	Trichloroethene	2.6	· U
78~87-5	1,2-Dichloropropane	2.6	U
75-27-4	Bromodichloromethane	2.6	Ū
10061-01-	cis-1,3-Dichloropropene	2.6	ש
108-10-1	4-Methyl-2-pentanone	B.5	ט
108-88-3	Toluene	2.6	ָט
10061-02-	trans-1,3-Dichloropropene	2.6	Ü
79-00-5	1,1,2-Trichloroethane	2.6	Ü
127-18-4	Tetrachloroethene	2.6	ט
591-78-6	2-Hexanone	8.5	U

VOAR- 1962 528-87

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CLIENT	SAMPLE	NO.	
	-		
070	0401.09		

Lab Name: <u>La</u>	ucks Testing Laboratories, Inc.	Contr	act:	
SDG No.: IDA	.02	Run S	equence: R017229	_
Matrix: (SOI	L/SED/WATER) Soil	Lab S	ample ID: IDA02-014	
	1: 5.88 (g/mL) gm	Lab F	ile ID: <u>Y0426025.D</u>	
	MED)		Collected: 04/18/2007	•
	not dec. 0.0	Date/	Time Analyzed: 04/26/200	7 17:59
GC Column: 5	ZB-624 20m ID: 0.18 (mm)	Dilut	ion Factor: 1.0	
Soil Extract	Volume:(uL)	Soil	Aliquot Volume:	(uL)
	e: (Y/N) <u>Y</u>			
CAS NO.	COMPOUND		CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
124-48-1	Dibromochloromethane		2.6	ប
108-90-7	Chlorobenzene		2.6	Ū
100-41-4	Ethylbenzene		56	
179601-23	m,p-Xylene	······	6.4	
95-47-6	o-Xylene		2.6	Ū
100-42-5	Styrene		2.6	ט
75-25-2	Bromoform		2.6	ט
	1,1,2,2-Tetrachloroethane		2.6	U
79-34-5	1,1,2,2,1011101010111101		<u> </u>	

79-34-5 Comments:

> MW 528-07

CLIENT	SAMPLE	NO.	
077	340772		

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017229
Matrix: (SOIL/SED/WATER) Soil	Lab Sample ID: IDA02-015
Sample wt/vol: 5.84 (g/mL) gm	Lab File ID: Y0425026.D
Level: (LOW/MED)	Date Collected: 04/18/2007
% Moisture: not dec. 27.3	Date/Time Analyzed: 04/26/2007 18:25
GC Column: ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
Heated Purge: (Y/N) Y	

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	3.5	<u>v</u> ;
74-87-3	Chloromethane	3.5	υŢ
75-D1-4	Vinyl chloride	3.5	υΨ
74-83-9	Bromomethane	3.5	U
75-00-3	Chloroethane	3.5	0 7
75-69-4	Trichlorofluoromethane	3.5	<u>ט</u>
75-35-4	1,1-Dichloroethene	3.5	υV
67-64-1	Acetone	atom 190	140
75-15-0	Carbon disulfide	2.3	J
75-09-2	Methylene chloride	3.5	ū
156-60-5	trans-1,2-Dichloroethene	3.5	U .
75-34-3	1,1-Dichloroethane	3.5	ט
156-59-2	cis-1,2-Dichloroethene	3.5	U 💊
.78-93-3	2-Butanone	39	<u> </u>
67-66-3	Chloroform	3.5	U 🤇
71-55-6	1,1,1-Trichloroethane	3.5	Ū
56-23-5	Carbon tetrachloride	3.5	<u>ט</u>
71-43-2	Benzene	3.5	Ü
107-06-2	1,2-Dichloroethane	3.5	Ü
79-01-6	Trichloroethene	3.5	Ū
78-87-5	1,2-Dichloropropane	3.5	U
75-27-4	Bromodichloromethane	3.5	ប
10061-01-	cis-1,3-Dichloropropene	3.5	Ū
108-10-1	4-Methyl-2-pentanone	12	ט
108-88-3	Toluene	3.5	U
10061-02-	trans-1,3-Dichloropropene	3.5	Ū
79-00-5	1,1,2-Trichloroethane	3.5	บ
127-18-4	Tetrachloroethene	3.5	Ū
591-78-6	2-Hexanone	13	υ,

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT	SAMPLE	NO.	٠.
. 070	40112		

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Lab Name: <u>L</u> a	nucks Testing Laboratories, Inc.	Cont	ract:	
SDG No.: IDA	.02	Run !	Sequence: R017229	
Matrix: (SOI	L/SED/WATER) Soil	Lab :	Sample ID: IDA02-015	
Sample wt/vo	l: 5.84 (g/mL) gm	Lab :	File ID: <u>Y0426026.D</u>	·
-	MED)	Date	Collected: 04/18/2007	
	not dec. <u>27.3</u>		Time Analyzed: 04/26/20	
GC Column:	ZB-624 20m ID: 0.18 (mm)	Dilu	tion Factor: 1.0	
Soil Extract	Volume: (uL)	Soil	Aliquot Volume:	(117.)
Heated Purge	: (Y/N) <u>Y</u>			
CAS NO.	COMPOUND	•	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
124-48-1	Dibromochloromethane		3.5	<u>n 7</u>
108-90-7	Chlorobenzene		13	<u> </u>
1.00-41-4	Ethylbenzene		3.5	T. u
179601-23	m,p-Xylene		7.1	Ū
95-47-6	o-Xylene		3.5	ប
100-42-5	Styrene		3.5	ם ,
75-25-2	Bromoform		3.5	ן ס
79-34-5	1.1.2.2-Tetrachloroethane		3.5	υ <b>4</b>

3.5

79-34-5 Comments: 1,1,2,2-Tetrachloroethane

	CLIENT	SAMPLE	NO.	
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	070	40115		

Contract:
Run Sequence: R017229
Lab Sample ID: IDA02-016
Lab File ID: <u>Y0426027.D</u>
Date Collected: 04/18/2007
Date/Time Analyzed: 04/26/2007 18:50
Dilution Factor: 1.0
Soil Aliquot Volume:(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	2.9	υď
74-87-3	Chloromethane	2.9	υ
75-01-4	Vinyl chloride	2.9	υ.
74-83-9	Bromomethane	2.9	U
75-00-3	Chloroethane	2.9	י ס
75-69-4	Trichlorofluoromethane	2.9	U
75-35-4	1,1-Dichloroethene	2.9	υ
67-64-1	Acetone	16	JAW.
75-15-0	Carbon disulfide	2.9	Ū
75-09-2	Methylene chloride	2.9	U
156-60-5	trans-1,2-Dichloroethene	2.9	Ū
75-34-3	1,1-Dichloroethane	2.9	Ū
156-59-2	cis-1,2-Dichloroethene	2.9	U
78-93-3	2-Butanone	9.6	U
67-66-3	Chloroform	2.9	Ü
71~55~6	1,1,1-Trichloroethane	2.9	ŭ
56-23-5	Carbon tetrachlorida	2.9	Ū
71-43-2	Benzene	2.9	Ū
107-06-2	1,2-Dichloroethane	2.9	Ū.
79-01-6	Trichloroethene	2.9	ប៊
78-87-5	1,2-Dichloropropane	2.9	Ü
75-27-4	Bromodichloromethane	2.9	U
10061-01-	cis-1,3-Dichloropropene	2:9	Ü
108-10-1	4-Methyl-2-pentanone	9.6	บ
108-88-3	Toluene	2.9	ט
10061-02-	trans-1,3-Dichloropropene	2.9	Ü
79-00-5	1,1,2-Trichloroethane	2.9	Ū
127-18-4	Tetrachlorosthene	2.9	Ū
591-78-6	2-Hexanone	9.6	Ü

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT	SAMPLE	NO.	
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070	40115		

SDG No.: IDA02   Run Sequence: R017229				
Matrix: (SOIL/SED/WATER) Soil  Sample wt/vol: 6.10 (g/mL) gm Lab File ID: Y0426027.D  Level: (LOW/MED)  Date Collected: 04/18/2007  * Moisture: not dec. 14.5  Date/Time Analyzed: 04/26/2007 18:50  GC Column: ZB-624 20m ID: 0.18 (mm)  Soil Extract Volume: (uL)  CAS NO. CCMPOUND  CAS NO. CCMPOUND  CAS NO. CCMPOUND  124-48-1 Dibromochloromethane  108-90-7 Chlorobenzene  100-41-4 Ethylbenzene  179601-23 m,p-Xylene  95-47-6 C-Xylene  100-42-5 Styrene  Lab File ID: Y0426027.D  Level: (LOW/MED)  Lab File ID: Y0426027.D  Level: (LOW/MED)  Lab File ID: Y0426027.D  Level: (LOW/med)  Lab File ID: Y0426027.D  Lab File ID: Y0426027.D  Lab File ID: Y0426027.D  Lab File ID: Y0426027.D  Level: (LOW/med)  Lab File ID: Y0426027.D  Lab File ID: Y0426027  Lab File ID: Y04260	Lab Name: 프	aucks Testing Laboratories, Inc.	Contract:	
Matrix: (SOIL/SED/WATER) Soil Lab Sample ID: IDA02-016  Sample wt/vol: 6.10 (g/mL) gm Lab File ID: Y0426027.D  Level: (LOW/MED) Date Collected: 04/18/2007  % Moisture: not dec. 14.5 Date/Time Analyzed: 04/26/2007 18:50  GC Column: ZB-624 20m ID: 0.18 (mm) Dilution Factor: 1.0  Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)  Heated Purge: (Y/N) Y  CAS NO. COMPOUND (ug/L or ug/kg) ug/kg Q  124-48-1 Dibromochloromethane 2.9 U  108-90-7 Chlorobenzene 2.9 U  109-41-4 Ethylbenzene 2.9 U  179601-23 m,p-Xylene 5.8 U  95-47-6 C-Xylene 2.9 U  100-42-5 Styrene 2.9 U	SDG No.: IDA	102	Run Sequence: R017229	
Sample wt/vol:       6.10       (g/mL) gm       Lab File ID:       Y0426027.D         Level:       (LOW/MED)       Date Collected:       04/18/2007         % Moisture:       not dec.       14.5       Date/Time Analyzed:       04/26/2007       18:50         GC Column:       ZB-624 20m       TD:       0.18       (mm)       Dilution Factor:       1.0         Soil Extract Volume:       (uL)       Soil Aliquot Volume:       (uL)         Heated Purge:       (Y/N)       Y         CAS NO.       COMPOUND       CONCENTRATION UNITS:       Q         (ug/L or ug/kg)       ug/kg       Q         124-48-1       Dibromochloromethane       2.9       U         108-90-7       Chlorobenzene       2.9       U         100-41-4       Ethylbenzene       2.9       U         179601-23       m,p-Xylene       5.8       U         95-47-6       c-Xylene       2.9       U         100-42-5       Styrene       2.9       U			Lab Sample ID: IDA02-016	
# Moisture: not dec. 14.5 Date/Time Analyzed: 04/26/2007 18:50  GC Column: ZB-624 20m			Lab File ID: Y0426027.D	<del></del>
# Moisture: not dec. 14.5  GC Column: ZB-624 20m	Level: (LOW/	(MED)	Date Collected: 04/18/2007	
Soil Extract Volume:       (uL)       Soil Aliquot Volume:       (uL)         Heated Purge:       (Y/N)       Y         CAS NO.       CONCENTRATION UNITS: (ug/L or ug/kg)       Q         124-48-1       Dibromochloromethane       2.9       U         108-90-7       Chlorobenzene       2.9       U         100-41-4       Ethylbenzene       2.9       U         179601-23       m,p-Xylene       5.8       U         95-47-6       c-Xylene       2.9       U         100-42-5       Styrene       2.9       U		·	Date/Time Analyzed: 04/26/2007 18	:50
Soil Extract Volume:	GC Column:	ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0	
Cas No.   COMPOUND   CONCENTRATION UNITS:   Q		·	Soil Aliquot Volume:(	นไม)
CAS NO.       COMPOUND       (ug/L or ug/kg) ug/kg       Q         124-48-1       Dibromochloromethane       2.9       U         108-90-7       Chlorobenzene       2.9       U         100-41-4       Ethylbenzene       2.9       U         179601-23       m,p-Xylene       5.8       U         95-47-6       c-Xylene       2.9       U         100-42-5       Styrene       2.9       U				
124-48-1       Dibromochloromethane       2.9       U         108-90-7       Chlorobenzene       2.9       U         100-41-4       Ethylbenzene       2.9       U         179601-23       m,p-Xylene       5.8       U         95-47-6       c-Xylene       2.9       U         100-42-5       Styrene       2.9       U	CAS NO.	COMPOUND	1	
108-90-7       Chlorobenzene       2.9       U         100-41-4       Ethylbenzene       2.9       U         179601-23       m,p-Xylene       5.8       U         95-47-6       c-Xylene       2.9       U         100-42-5       Styrene       2.9       U	124-48-1	Dibromochloromethane	2.9	
100-41-4       Ethylbenzene       2.9         179601-23       m,p-Xylene       5.8       U         95-47-6       o-Xylene       2.9       U         100-42-5       Styrene       2.9       U	108-90-7	Chlorobenzene	2.9 U	
179601-23   m,p-Xylene	100-41-4	Ethylbenzene	2.2	
95-47-6	179601-23		3.0	
100-42-5 Styrene 2.5	95-47-6	o-Xylene	2.,2	
75-25-2 Bromoform 2.9 U	100-42-5	Styrene	2.7	
	75-25-2	Bromoform	2.9 U	

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79-34-5 Comments: 1,1,2,2-Tetrachloroethane

MW 5760)

CLIENT	SAMPLE	NO.
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Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017229
Matrix: (SOIL/SED/WATER) Soil	Lab Sample ID: IDA02-017
Sample wt/vol: 6.42 (g/mL) gm	Lab File ID: Y0426028.D
Level: (LOW/MED)	Date Collected: 04/18/2007
% Moisture: not dec. 24.7	Date/Time Analyzed: 04/26/2007 19:15
GC Column: ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
T	

COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
Dichlorodifluoromethane	3.1	UJ
Chloromethane	3.1	ΰ
Vinyl chloride	3.1	ט
Bromomethane	3.1	<u></u>
Chloroethane	3.1	U
Trichlorofluoromethane	3.1	Ū
l	3.1	<u> </u>
Acetone	6.1	J¥w√
Carbon disulfide	3.1	υ
	3.1 .	Ū
	3.1	U
	3.1	U
	3.1	U
	10	U
	3.1	Ü
	3.1	ט
	3.1	ΰ
	3.3	Ū
	3.1	ט
	3.1	Ū
	3.1	ΰ
	3.1	บ
	3.1	ט
	10	Ū
	3.1	U.
	3.1	Ü
The state of the s	3.1	Ū
	3.1	U
		U
	Dichlorodifluoromethane Chloromethane Vinyl chloride Bromomethane Chloroethane Trichlorofluoromethane 1,1-Dichloroethene	COMPOUND         (ug/L or ug/kg) ug/kg           Dichlorodifluoromethane         3.1           Chloromethane         3.1           Vinyl chloride         3.1           Bromomethane         3.1           Chloroethane         3.1           Trichlorofluoromethane         3.1           1,1-Dichloroethene         3.1           Acetone         6.1           Carbon disulfide         3.1           Methylene chloride         3.1           trans-1,2-Dichloroethene         3.1           1,1-Dichloroethane         3.1           cis-1,2-Dichloroethene         3.1           2-Butanone         10           Chloroform         3.1           1,1-Trichloroethane         3.1           Carbon tetrachloride         3.1           Benzene         3.1           1,2-Dichloroethane         3.1           Trichloroethene         3.1           1,2-Dichloropropane         3.1           Bromodichloromethane         3.1           cis-1,3-Dichloropropene         3.1           4-Methyl-2-pentanone         10           Toluene         3.1           trans-1,3-Dichloroptopene         3.1           1

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CLIENT	SAMPLE	NO.	
1			
070	40118		

Lab Name: L	aucks Testing Laboratories, Inc.	Contract:	
SDG No.: ID	A02	Run Sequence: R017229	
	IL/SED/WATER) Soil	Lab Sample ID: IDA02-017	<u> </u>
	ol: 6.42 (g/mL) gm	Lab File ID: Y0426028.D	
Level: (LOW,	/MED)	Date Collected: 04/18/2007	
	not dec. <u>24.7</u>	Date/Time Analyzed: 04/26/200	7, 19:15
	ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0	
Soil Extrac	t Volume:(uL)	Soil Aliquot Volume:	(nr)
Heated Purg	e: (Y/N) <u>Y</u>		
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
124-48-1	Dibromochloromethane	3.1	Ū
108-90-7	Chlorobenzene	3.1	U
100-41-4	Ethylbenzene	3.1	υ,
2 H 0 C 0 2	m,p-Xylene	6.2	U
179601-23		3.1	U
179601-23 95-47-6	o-Xylene		
	o-Xylene Styrene	3.1	ט

3.1

Comments:

1,1,2,2-Tetrachloroethane

MY

CLIENT	SAMPLE	NO.	
070	040121		

ab Name: Laucks Testing Laboratories, Inc.	Contract:
EDG No.: IDA02	Run Sequence: R017229
Matrix: (SOIL/SED/WATER) Soil	Lab Sample ID: IDA02-018
Sample wt/vol: 5.83 (g/mL) gm	Lab File ID: Y0426029.D
Level: (LOW/MED)	Date Collected: 04/18/2007
Moisture: not dec. 23.6	Date/Time Analyzed: 04/26/2007 19:41
GC Column: ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume: (uL)
Heated Purge: (Y/N) Y	

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	3.4	U U
74-87-3	Chloromethane	3.4	U )
75-01-4	Vinyl chloride	3.4	ū
74-83-9	Bromomethane	3.4	<u></u>
75-00-3	Chloroethane	3.4	<u> </u>
75-69-4	Trichlorofluoromethane	3.4	υ
75-35-4	1,1-Dichloroethene	3.4	U 🗸
67-64-1	Acetone	-129m 230	J /BMV
75-15-0	Carbon disulfide	2.0	J
75-09-2	Methylene chloride	3.4	ָּט ֶ
156-60-5	trans-1,2-Dichloroethene	3.4	U
75-34-3	1,1-Dichloroethane	3.4	Ū
156-59-2	cis-1,2-Dichloroethene	3.4	Ŭ N
78-93-3	2-Butanone	31	1
67-66-3	Chloroform	3.4	ט
71-55-6	1,1,1-Trichloroethane	3 - 4	ט
56-23-5	Carbon tetrachloride	3.4	. U
71-43-2	Benzene	3.4	Ū
107-06-2	1,2-Dichloroethane	3.4	Ū
79-01-6	Trichloroethene	3.4	U
78-87-5	1,2-Dichloropropane	3.4	U
75-27-4	Bromodichloromethane	3.4	Ū
10061-01-	cis-1,3-Dichloropropene	3.4	ΰ
108-10-1	4-Methyl-2-pentanone	11	ט
108-88-3	Toluene	3.4	ט
10061-02-	trans-1,3-Dichloropropene	3.4	U
79-00-5	1,1,2-Trichloroethane	3.4	U
127-18-4	Tetrachloroethene	3.4	U
591-78-6	2-Hexanone	11	<b>ਹ</b>

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NOTATILE	ORGANICS	ANALYSIS	DATA	SHEET

	CLIENT	SAMPLE NO.	
	070	40121	

Lab Name: Lab	mcks Testing Laboratories, Inc.		Contract	t:	
SDG No : IDA	.02		Run Sequ	uence: R017229	· 
•	L/SED/WATER) Soil			ple ID: IDA02-018	
Sample wt/vo	1: 5.83 (g/mL) gm		•	e ID: <u>Y0426029.D</u>	
Level: (LOW/	MED)		Date Co	llected: 04/18/2007	
•	not dec. <u>23.6</u>	,	Date/Ti	me Analyzed: 04/26/20	07 19:41
•	ZB-624 20m ID; 0.18 (nm)		Dilutio	n Factor: 1.0	·
Soil Extract	. Volume:(uL)		Soil Al	iquot Volume:	(uL)
CAS NO.	COMPOUND		1	ONCENTRATION UNITS:	Q
124-48-1	Dibromochloromethane	<del></del>	3	. 4	<u>"</u> "
108-90-7	Chlorobenzene		1	.3	5
100-41-4	Ethylbenzene		3	3.4	<u> </u>
179601-23	m,p-Xylene		. 6	5.7	Ü
95-47-6	o-Xylene		3	3.4 . :	U .
100-42-5	Styrene	-	3	3.4	ט
75-25-2	Bromoform		3	3.4	_ "
79-34-5.	1.1.2.2-Tetrachloroethane			3.4	_ n <b>4</b>

79-34-5 Comments: 1,1,2,2-Tetrachloroethane

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Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017229
Matrix: (SOIL/SED/WATER) Soil	Lab Sample ID: IDA02-019
Sample wt/vol: 5.96 (g/mL) gm	Lab File ID: Y0426030.D
Level: (LOW/MED)	Date Collected: 04/19/2007
% Moisture: not dec. 26.2	Date/Time Analyzed: 04/26/2007 20:07
GC Column: ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
Hostad Durge, (V/N) V	

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-8	Dichlorodifluoromethane	3.4	<u>""</u>
74-87-3	Chloromethane	3.4	Ū
75-01-4	Vinyl chloride	3,4	U .
7.4-83-9	Bromomethane	3.4	של
75-00-3	Chloroethane	- 3.4	ד
75-69-4	Trichlorofluoromethane	3.4	U
75-35-4	1,1-Dichloroethene	3.4	Ū
67-64-1	Acetone	==90 175 10	TAN
75-15-0	Carbon disulfide	2.1	J
75-09-2	Methylene chloride	3.4	σ
156-60-5	trans-1,2-Dichloroethene	3.4	Ū
75~34-3	1,1-Dichloroethane	3.4	Ū
156-59-2	cis-1,2-Dichloroethene	3.4	Ū
78-93-3	2-Butanone	26	5
67-66-3	Chloroform	3.4	Ü
71-55-6	1,1,1-Trichloroethane	3.4	U
56-23-5	Carbon tetrachloride	3.4	Ū
71-43-2	Benzene	3.4	U.
107-06-2	1.2-Dichloroethane	3.4	Ū
79-01-6	Trichloroethene	3.4	U
78-87-5	1,2-Dichloropropane	3.4	Ū
75-27-4	Bromodichloromethane	3.4	U
10061-01-	cis-1,3-Dichloropropene	3.4	Ū
108-10-1	4-Methyl-2-pentanone	13	U
108-88-3	Toluene	3.4	Ū
10061-02-	trans-1,3-Dichloropropene	3.4	<u> </u>
79-00-5	1,1,2-Trichloroethane	3.4	ט
127-18-4	Tetrachloroethene	3.4	Ū
591-78-6	2-Hexanone	11	U

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

	CLIENT	SAMPLE	NO.		
				_	
07040123					

Lab Name: L	aucks Testing Laboratories, Inc.	Contract:	
SDG No.: ID.	A02	Run Sequence: R017229	
Matrix: (SO	IL/SED/WATER) Soil	Lab Sample ID: IDA02-019	
	ol: 5.96 (g/mL) gm	Lab File ID; Y0426030.D	
Level: (LOW,	/MED)	Date Collected: 04/19/2007	
% Moisture:	not dec. 26.2	Date/Time Analyzed: 04/26/2	007 20:07
GC Column:	ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0	
	t Volume:(uL)	Soil Aliquot Volume:	(nT)
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
124-48-1	Dibromochloromethane	3.4	Ū
108-90-7	Chlorobenzene	31	す
100-41-4	Ethylbenzene	==0m540	J/M
179601-23	m,p-Xylene	25	しょ
95-47-6	o-Xylene	15	J
100-42-5	Styrene	.3.4	U
		3.4	TJ TJ

3.4

Comments:

79-34-5

1,1,2,2-Tetrachloroethane

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CLIENT	SAMPLE	NO.	

		07040126
Lab Name: <u>I</u>	aucks Testing Laboratories, Inc.	Contract:
SDG No.: II	DA02	Run Sequence: R017229
Matrix: (SO	IL/SED/WATER) Soil	Lab Sample ID: IDA02-020
Sample wt/v	ol: 5.58 (g/mL) gm	Lab File ID: Y0426031.D
Level: (LOW	/MED)	Date Collected: 04/19/2007
% Moisture:	not dec. 25.8	Date/Time Analyzed: 04/26/2007 20:32
GC Column:	ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extrac	t Volume:(uL)	Soil Aliquot Volume:(uL)
Heated Purg	e: (Y/N) <u>Y</u>	
CAS NO.	COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/kg) ug/kg
75-71-8	Dichlorodifluoromethane	3.6
74-87-3	Chloromethane	3.6 U
75-01-4	Vinyl chloride	3.6
74-83-9	Bromomethane	3.6 02
75-00-3	Chloroethane	3.6 U
<u> </u>		

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75-71 <b>-</b> 8	Dichlorodifluoromethane	3.6	D.D.
74-87-3	Chloromethane	3.6	Ū
75-01-4	Vinyl chloride	3.6	U
74-83-9	Bromomethane	3.6	<u>0,77</u>
75-00-3	Chloroethane	3.6	Ū
75-69-4	Trichlorofluoromethane	_ 3.6	. U .
75-35-4	1,1-Dichloroethene	3.6	Ū
67-64-1	Acetone .	220 m )50	TEMU
75-15-0	Carbon disulfide	3.6	Ū
75-09-2	Methylene chloride	7-9	J
156-60-5	trans-1,2-Dichloroethene	3.6	Ŭ
75-34-3	1,1-Dichloroethane	3.6	Ū
156-59-2	cis-1,2-Dichloroethene	3.6	. ʊ
78-93-3	2-Butanone	54	<u> </u>
67-66-3	Chloroform	3.6	U
71-55-6	1,1,1-Trichloroethane	3.6	ט
56-23-5	Carbon tetrachloride	3,6	Ü
71-43-2	Benzene	3.6	ט
107-06-2	1,2-Dichloroethane	3.6	Ū
79-01-6	Trichloroethene	3.6	ט
78-87-5	1,2-Dichloropropane	3.6	ט
75-27-4	Bromodichloromethane	3.6	Ū
10061-01-	cis-1,3-Dichloropropene	3.6	Ū
108-10-1	4-Methyl-2-pentanone	12	Ū
108-88-3	Toluene	3.6	U
10061-02-	trans-1,3-Dichloropropens	3.6	ט
79-00-5	1,1,2-Trichloroethane	3.6	Ū
127-18-4	Tetrachloroethene	3.6	<u></u> ד
591-78-6	2-Rexanone	12	Ū

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

	CLIENT	SAMPLE	NO.	
-	070	040126		

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017229
Matrix: (SOIL/SED/WATER) Soil	Lab Sample ID: IDA02-020
Bampie wc/ vol:	Lab File ID: Y0426031.D
	Date Collected: 04/19/2007
% Moisture: not dec25.8	Date/Time Analyzed: 04/26/2007 20:32
GC Column: ZB-624 20m TD: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
Heated Purge: (Y/N) Y	

CAS NO.	COMPOUND	CONCENTRATION UNITS:  (ug/L or ug/kg) ug/kg	Q
124-48-1	Dibromochloromethane	3.6	ט
108-90-7	Chlorobenzene	3.6	
100-41-4	Ethylbenzene	13	<u> </u>
179601-23	m,p-Xylene	7-2	<u>u</u>
95-47-6	o-Xylene	7.8	
100-42-5	Styrene	3.6	Ŭ
75-25-2	Bromoform	3.6	บ
79-34-5	1,1,2,2-Tetrachloroethane	3.6	U

Comments:

Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017229
Matrix: (SOIL/SED/WATER) Soil	Lab Sample ID: IDA02-021
Sample wt/vol: 6.62 (g/mL) gm	Lab File ID: Y0426032.D
Level: (LOW/MED)	Date Collected: 04/19/2007
% Moisture: not dec. 16.5	Date/Time Analyzed: 04/26/2007 20:58
GC Column: ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
Heated Purge: (Y/N) Y	

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q
75-71-B	Dichlorodifluoromethane	2.7	Tu
74-87-3	Chloromethane	2.7	<u> </u>
75-01-4	Vinyl chloride	2.7	u V
74-83-9	Eromomethane	2.7	<u>" " " " " " " " " " " " " " " " " " " </u>
75-00-3	Chloroethane	2.7	<u> </u>
75-69-4	Trichlorofluoromethane	2.7	U
75-35-4	1,1-Dichloroethene	2.7	ַ ט
67-64-1	Acetone	78	_ ~ XW
75-15-0	Carbon disulfide	2.7	ט
75-09-2	Methylene chloride	2.7	ט .
156-60-5	trans-1,2-Dichloroethene	2.7	<u>ט</u>
75-34-3	1,1-Dichloroethane	2.7	υ
156-59-2	cis-1,2-Dichloroethene	2.7	ע ט
78-93-3	2-Butanone	19	7
67-66-3	Chloroform	2.7	$\mathcal{D}_{\Omega}$
71-55-6	1,1,1-Trichloroethane	2.7	ַ ט
56-23-5	Carbon tetrachloride	2.7	ט
71-43-2	Benzene	2.7	ט
107-06-2	1,2-Dichloroethane	2.7	ប
79-01-6	Trichloroethene	2.7	บ
78-87-5	1,2-Dichloropropane	2.7	<b>U</b> .
75-27-4	Bromodichloromethane	2.7	Ū
10061-01-	cis-1,3-Dichloropropene	2.7	Ū
108-10-1	4-Methyl-2-pentanone	9.0	Ü
108-10-1	Toluene	2.7	U
10061-02-	trans-1,3-Dichloropropene	2.7	Ū
79-00-5	1,1,2-Trichloroethane	2.7	, U
127-18-4	Tetrachloroethene	2.7	Ü
591-78-6	2-Hexanone	9.0	υV

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Lab Name: Laucks Testing Laboratories, Inc.	Contract:
SDG No.: IDA02	Run Sequence: R017229
Matrix: (SOIL/SED/WATER) Soil	Lab Sample ID: IDA02-021
Sample wt/vol: 6.62 (g/mL) gm	Lab File ID: Y0426032.D
Level: (LOW/MED)	Date Collected: 04/19/2007
% Moisture: not dec. <u>16.5</u>	Date/Time Analyzed: 04/26/2007 20:58
GC Column: ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0
Soil Extract Volume:(uL)	Soil Aliquot Volume:(uL)
Heated Purge: (Y/N) Y	
CAS NO. COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/kg) ug/kg
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CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/kg	Q Q
124-48-1	Dibromochloromethane	2.7	υŢ
108-90-7	Chlorobenzene	2.7	U
100-41-4	Ethylbenzene	1.8	M/V
179601-23	m,p-Xylene	2.0	J
95-47-6	o-Xylene	4.1	3
100-42-5	Styrene	2.7	tu
75-25-2	Bromoform	2.7	03
79-34-5	1,1,2,2-Tetrachloroethane	2.7.	U U U

Comments:

07040131

Lab Name:	Laucks Testing Laboratories, Inc.	Contract:	
SDG No.:	IDA02	Run Sequence: R017481	
		Lab Sample ID: IDA02-037	
Matrix: (S	SOIL/SED/WATER) Soil		
Sample wt/	/vol: 1.00 (g/mL) mL	Lab File ID: M0507012.D	
Level: (L	OW/MED)	Date Collected: 04/20/2007	
	e: not dec. 0.0	Date/Time Analyzed: 05/07/200	7 13:02
	: <u>ZB-624 20m</u> ID: <u>0.18</u> (mm)		
Soil Extr	act Volume: 10000 (uL)	Soil Aliquot Volume: 25	(uL)
·-·			
Heated Pu	rge: (Y/N) <u>N</u>	CONCENTRATION UNITS:	
CAS NO.	COMPOUND	(ug/L or ug/kg) ug/L	Q
	Dichlorodifluoromethane	2000	Ū
75-71-8	Chloromethane	2000	Ū
74-87-3	Vinyl chloride	2000	U
75-01-4	Bromomethane	2000	υ
74-83-9	Chloroethane	2000	ט
75-00-3	Trichlorofluoromethane	2000	ס
75-69-4	1,1-Dichloroethene	2000	ָט
75-35-4	Acetone	10000	מ
67-64-1 75-15-0		2000	Ū
	Methylene chloride	2700	Mus
75-09-2		2000	ט ייי
75-34-3		2000	ט
156~59~2		2000	ט
		10000	ט
78-93-3 67-66-3		2000	ט
71-55-6		2000	υ
56-23-5		2000	Ū
71-43-2	······································	2000	ט
107-06-2		2000	Ü
79-01-6		2000	מ
79-01-6		2000	ס
		1500	J
75-27-4	DT OWO OTT OF OWG CLICKLO		**

Myssol

2000

10000

2000

2000

2000

2000

10000

FORM I VOA

10061-01-

108-10-1

108-88-3

10061-02-

79-00-5

127-18-4

591-78-6

cis-1,3-Dichloropropene

trans-1,3-Dichloropropene

4-Methyl-2-pentanone

1,1,2-Trichloroethane

Tetrachloroethene

Toluene

2-Hexanone

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VOLATILE	ORGANICS	ANALYSIS	DATA	SHEET

CLIENY	SAMPLE	NO,	
070	040131		,

Lab Name: Lab	aucks Testing Laboratories, Inc.	Contract:		
SDG No.: IDA	102	Run Sequence: R017481		
	L/SED/WATER) Soil	Lab Sample ID: IDA02-037	ene papajora basilis manari i sabadi	
Sample wt/vol: 1.00 (g/mL) mL		Lab File ID: M0507012.D		
Level: (LOW/	MED)	Date Collected: 04/20/2007		
% Moisture:	not dec. 0.0	Date/Time Analyzed: 05/07/200	7 13:02	
	ZB-624 20m ID: 0.18 (mm)	Dilution Factor: 1.0		
Soil Extract	Volume: 10000 (uL)	Soil Aliquot Volume: 25	(uL)	
	:: (Y/N) <u>N</u>			
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) ug/L	Q	
124-48-1	Dibromochloromethane	2000	ט	
108-90-7	Chlorobenzene	1600	J	
100-41-4	Ethylbenzene	2000	ט	
179601-23	m,p-Xylene	4000	ָּט	
95-47-6	o-Xylene	2000	Ü	
100-42-5	Styrene	2000	U	
75-25-2	Bromoform	2000	Ü	
79-34-5	1,1,2,2-Tetrachloroethane	2000	ָט	

79-34-5 Comments: 1,1,2,2-Tetrachloroethane



International Specialists in the Environment

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#### MEMORANDUM

DATE:

May 24, 2007

TO:

Steve Hall, Project Manager, E & E, Seattle, Washington

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Organic Data Quality Assurance Review, Avery Landing Site,

Avery, Idaho

REF:

TDD: 07-03-0004

PAN: 002233.0193.01SF

The data quality assurance review of 15 solid, 1 waste, and 13 water samples collected from the Avery Landing site in Avery, Idaho, has been completed. Semivolatile Organic Compound (SVOC) analysis (EPA Method 8270) was performed by STL-Seattle, Tacoma, Washington.

The samples were numbered:

Solid	07040102 07040114 07040122	07040104 07040116 07040124	07040106 07040117 07040125	07040108 07040119 07040127	07040110 07040120 07040129
Waste	07040131				
Water	07040111 07040136 07040141	07040132 07040137 07040142	07040133 07040138 07040143	07040134 07040139	07040135 07040140

#### **Data Qualifications:**

# 1. Sample Holding Times: Acceptable.

Sample receipt temperature was not provided; the laboratory narrative indicated that sample temperature was acceptable. The samples were collected between April 16 and 21, 2007, were extracted between April 24 and 26, 2007, and were analyzed by May 2, 2007, therefore meeting holding time criteria of less than 7 days between collection and extraction (14 days for soil and waste) and less than 40 days between extraction and analysis.

#### 2. Tuning: Acceptable.

Tuning was performed at the beginning of each 12-hour analysis sequence. All results were within QC limits.

#### 3. Initial Calibration: Satisfactory.

All average Relative Response Factors (RRFs) were greater than the QC limit of 0.050. All Relative Standard Deviations (RSDs) were less than the QC limit of 30% except benzoic acid, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, indeno(1,2,3-cd)pyrene, and dibenz(a,h)anthracene in the April 12, 2007 calibration and benzoic acid, 2,4-dinitrophenol, 4-nitrophenol, and 4,6-dinitro-2-methylphenol in the May 3, 2007 calibration. Associated positive results were qualified as estimated quantities (J).

# 4. Continuing Calibration: Satisfactory.

All RRFs were greater than the QC limit of 0.050. All % differences were less than the QC limit of 25% except di-n-octylphthalate (increasing response factor) in the April 26, 2007 calibration, benzoic acid, 3-nitroaniline, 2,4-dinitrophenol, 2,4-dinitrophenol, 4-nitrophenol, 4-nitroaniline, 4,6-dinitro-2-methylphenol, pentachlorophenol, and benzo(g,h,i)perylene (all with increasing response factors) in the April 27, 2007 calibration, 4-chloroaniline and 4-nitrophenol (both with decreasing response factors) in the May 1, 2007 calibration, 3,3'-dichlorobenzidine, indeno(1,2,3-cd)pyrene, and dibenz(a,h)anthracene (all with increasing response factors) in the May 2, 2007 calibration, and benzoic acid (decreasing response factor) and 4-nitroaniline (increasing response factor) in the May 3, 2007 calibration. Analytes associated with decreasing response factors were qualified as estimated quantities (J or UJ) and positive results for analytes associated with increasing response factors were qualified as estimated quantities (J).

#### 5. Blanks: Satisfactory.

A method blank was analyzed for each 20 sample batch per matrix. There were no detections in any method blank except di-n-butylphthalate (7  $\mu$ g/kg) and butyl benzyl phthalate (7.3  $\mu$ g/kg) in the April 24, 2007 soil blank, di-n-butylphthalate (0.059  $\mu$ g/L), butyl benzyl phthalate (0.082  $\mu$ g/L), and bis(2-ethylhexyl)phthalate (0.16  $\mu$ g/L) in the April 25, 2007 water blank, and di-n-butylphthalate (4,900  $\mu$ g/kg) in the April 26, 2007 waste blank. Associated sample results less than 10 times the blank contamination for these common laboratory contaminants were qualified as not detected (U).

#### 6. System Monitoring Compounds (SMCs): Satisfactory.

All SMC recoveries were within QC limits except 2,4,6-tribromophenol with a high recovery in samples 07040102, 07040104, 07040108, 07040116, and 07040124 (no action based on one outlier per fraction per sample), nitrobenzene and 2,4,6-tribromophenol with high recoveries in samples 07040110 and 07040122 (no action based on one outlier per fraction per sample), 2-fluorophenol, nitrobenzene, and 2,4,6-tribromophenol with high recoveries in sample 07040114 (positive acid-fraction results were qualified as estimated quantities [J]), 2-fluorophenol and phenol with low recoveries and 2,4,6tribromophenol with a high recovery in sample 07040117 (all acid-fraction results were qualified as estimated quantities [J or UJ]), 2-fluorophenol, nitrobenzene, and 2,4,6-tribromophenol with high recoveries and 2-fluorophenol with a low recovery in sample 07040119 (all acid-fraction results and all positive base/neutral fraction results were qualified as estimated quantities [J or UJ]), 2,4,6-tribromophenol and phenol with 0% recoveries, 2-fluorobiphenyl with a low recovery and nitrobenzene with a high recovery in sample 07040120 (positive acid-fraction results were qualified as estimated quantities [J] and sample quantitation limits were rejected [R] and base/neutral fraction results were qualified as estimated quantities [J or UJ]), 2-fluorophenol and 2-fluorobiphenyl with low recoveries and nitrobenzene and 2,4,6tribromophenol with high recoveries in sample 07040127 (all results were qualified as estimated quantities [J or UJ], 2-fluorophenol with <10% recovery and nitrobenzene and 2,4,6-tribromophenol with high recoveries in sample 07040129 (positive acid-fraction results were qualified as estimated quantities [J] and sample quantitation limits were rejected [R]), phenol with <10% recovery in samples 07040136,

07040139, and 07040141 (positive acid-fraction results were qualified as estimated quantities [J] and sample quantitation limits were rejected [R]), 2-fluorophenol and phenol with <10% recoveries in sample 07040137 (positive acid-fraction results were qualified as estimated quantities [J] and sample quantitation limits were rejected [R]), and 2-fluorophenol and phenol with <10% recoveries and nitrobenzene with a high recovery in sample 07040140 (positive acid-fraction results were qualified as estimated quantities [J] and sample quantitation limits were rejected [R]).

# 7. Matrix Spike (MS)/MS Duplicate (MSD)/Blank Spike (BS)/BS Duplicate (BSD) Analysis: Satisfactory.

Spike analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. All recoveries were within the QC limits except n-nitrosodiphenylamine and carbazole with low BS and BSD recoveries associated with the waste sample, isophorone and di-n-butylphthalate with high BS recoveries and 2,4-dinitrophenol with low BS and BSD recoveries associated with the solid samples, di-n-octylphthalate with a high BS recovery associated with the water samples, bis(2chloroethyl)ether and di-n-octylphthalate with high MS recoveries and 4-nitrophenol with low MS and MSD recoveries (the MSD recovery was less than 10%) associated with sample 07040135, and 2nitrophenol, 2,4-dichlorophenol, 4-chloro-3-methylphenol, 2-nitroaniline, 2,6-dinitrotoluene, 2,4dinitrotoluene, pentachlorophenol, butyl benzyl phthalate, benzo(a)anthracene, bis(2-ethylhexyl)phthalate, indeno(1,2,3-cd)pyrene, and dibenz(a,h)anthracene (all with one or more high recoveries), hexachlorocyclopentadiene, 2,4,5-trichlorophenol, fluoranthene, and benzo(k)fluoranthene (all with one or more low recoveries), benzoic acid and 4,6-dinitro-2-methylphenol (one high recovery and one 0% recovery), hexachlorocyclopentadiene (two low recoveries), and 3,3'-dichlorobenzidine (two 0% recoveries) in the MS/MSD associated with sample 07040108. Associated positive sample results for analytes with high recoveries were qualified as estimated quantities (J), associated positive results and sample quantitation limits for analytes with low recoveries (but > 10%) were qualified as estimated quantities (J or UJ), and associated positive results were qualified as estimated quantities (J) and sample quantitation limits were rejected (R) for analytes with < 10% recovery.

#### 8. Duplicate Analysis: Satisfactory.

Spike duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All spike duplicate results were within QC limits except indeno(1,2,3-cd)pyrene associated with the waste sample and benzoic acid and 4,6-dinitro-2-methylphenol associated with sample 07040108. Associated sample results were qualified as estimated quantities (J or UJ).

#### 9. Internal Standards: Satisfactory.

All internal standards (IS) were within  $\pm$  30 seconds of the continuing calibration IS retention times. All area counts were within 50 % to 200 % of the continuing calibration area counts except chrysene and perylene (both with low recoveries) in sample 07040102, 1,4-dichlorobenzene and chrysene (both with low recoveries) in sample 07040119, and perylene with high recoveries in samples 07040122 (1:100 dilution) and 07040127 (1:100 dilution). Positive sample results and sample quantitation limits associated with the low area count outliers were qualified as estimated quantities (J or UJ). Positive sample results associated with high area count outliers were qualified as estimated quantities (J).

### 10. Precision and Bias Determination: Not Performed.

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

#### 11. Performance Evaluation Sample Analysis: Not Provided.

Performance evaluation samples were not provided to the laboratory.

#### 12. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

#### Data Qualifiers and Definitions

- J The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- R The sample results are rejected (analyte may or may not be present) due to gross deficiencies in quality control criteria. Any reported value is unusable. Resampling and/or reanalysis is necessary for verification.
- U The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

Job Number: 580-5689-1

Client Sample ID:

07040102

Lab Sample ID:

580-5689-1

Client Matrix:

Solid

05/04/2007 0801

04/24/2007 0833

% Moisture:

10.5

Date Sampled:

04/16/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8270C 3550B

10

Analysis Batch: 580-18161

Instrument ID:

SEA040

Prep Batch: 580-17981

Lab File ID:

ak009412.D

Initial Weight/Volume:

20.3507 g

Final Weight/Volume:

2 mL

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		30	110
Bis(2-chioroethyl)ether	•	ND		33	110
2-Chlorophenol		ND		25	110
1,3-Dichlorobenzene		ND		13	55
1,4-Dichlorobenzene	•	ND		8.3	55
Benzyl alcohol		ND		33	110
1,2-Dichlorobenzene	•	ND		19	55
2-Methylphenol		ND		31	110
Bis(2-chloroisopropyl) ether		ND		37	160
3 & 4 Methylphenol	•	ND		58	220
N-Nitrosodi-n-propylamine		ND	*	29	110
Hexachloroethane		ND	•	23	110
Nitrobenzene		ND		16	110
Isophorone	,	ND	FM	29	110
2-Nitrophenol		ND	•	25	110
2,4-Dimethylphenol		ND		21	110
Benzoic acid		ND		910	2700
Bis(2-chloroethoxy)methane		ND		27	110
	•	ND		21	110
2,4-Dichlorophenol		ND ND		11	55
1,2,4-Trichlorobenzene	•	ND		6.3	22
Naphthalene		ND		30	110
4-Chloroaniline		ND		14	55
Hexachlorobutadiene		ND .		24	110
4-Chloro-3-methylphenol		4.5	J	3.4	. 22
2-Methylnaphthalene		ND	J	27	110 ()
Hexachlorocyclopentadiene				36	160
2,4,6-Trichlorophenol	V.	ND		25	110
2,4,5-Trichlorophenol		ND		2.1	22
2-Chloronaphthalene	0	ND		2.1	110
2-Nitroaniline		ND		8.5	110
Dimethyl phthalate		ND		2.5	22
Acenaphthylene		ND		2.5 21	
2,6-Dinitrotoluene		ND			110
3-Nitroaniline		ND	•	32	110
Acenaphthene		ND	4	6.3	22
2,4-Dinitrophenol		ND	dow	230	1100
4-Nitrophenoi		ND		290	1100
Dibenzofuran		ND		. 19	110
2,4-Dinitrotoluene		ND		15	.110
Diethyl phthalate		ND		7.9	110
4-Chlorophenyl phenyl ether		ND		18	110
Fluorene		ND		2.9	22
4-Nitroaniline		ND		21	110 🏑

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Job Number: 580-5689-1

Client Sample ID:

07040102

Lab Sample ID:

580-5689-1

Client Matrix:

Solid

% Moisture:

10.5

Date Sampled:

04/16/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18161

Instrument ID:

SEA040 ak009412.D

Preparation: 3550B

Prep Batch: 580-17981

Lab File ID:

Dilution:

10

Initial Weight/Volume: Final Weight/Volume:

20.3507 g

Date Analyzed: Date Prepared:

05/04/2007 0801

04/24/2007 0833

Injection Volume:

2 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL 1
4,6-Dinitro-2-methylphenol		ND		300	1100 🗸
N-Nitrosodiphenylamine		ND		16	55
4-Bromophenyl phenyl ether		ND		11	110
Hexachlorobenzene	•	ND		12	55
Pentachloropheno!		ND		34	110
Phenanthrene		ND		4.4	22
Anthracene		14	J offi	4.7	22
Di-n-butyl phthalate		ND	- hu	14	220 <i>U</i>
Fluoranthene		26		3.4	22
Pyrene		44	/	3.0	22
Butyl benzyl phthalate		38 UJ	and Flow	32	110
3,3'-Dichlorobenzidine		ND	• •	10	220 ()
Benzo[a]anthracene		ND		7.1	27
Chrysene		ND		8.2	27
Bis(2-ethylhexyl) phthalate		ND		260	1600
Di-n-octyl phthalate		ND		36	220
Benzo[a]pyrene		ND		9.3	33
Indeno[1,2,3-cd]pyrene		ND		13	44
Dibenz(a,h)anthracene		ND		13	44
Benzo[g,h,i]perylene		ND	•	8.0	27
Carbazole		ND		36	160
1-Methylnaphthalene	•	ND	•	9.6	33
Benzo[b]fluoranthene		ND		5.9	22 //
Benzo[k]fluoranthene		ND		7.6	27 🗸 🗸
Surrogate		%Rec			ance Limits
2-Fluorophenol		57		36 - 1	
Phenol-d5		64		38 - 1	
Nitrobenzene-d5		84		38 - 1	
2-Fluorobiphenyl		64	· **	42 - 1	
2,4,6-Tribromophenol		162	ΧI	28 - 1	
Terphenyl-d14		. 100	•	42 - 1	51



Job Number: 580-5689-1

Client Sample ID:

07040104

Lab Sample ID:

580-5689-2

05/01/2007 1840

04/24/2007 0833

Client Matrix:

Solid

% Moisture:

16.4

Date Sampled:

04/17/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8270C 3550B

10

Analysis Batch: 580-18161

Instrument ID:

**SEA040** 

Prep Batch: 580-17981

Lab File ID:

ak009340.D

Initial Weight/Volume:

20.2264 g 2 mL

Final Weight/Volume:

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Pheno!		ND	-	32	120 🗸
Bis(2-chloroethyl)ether		ND		35	120
2-Chlorophenol		ND		27	120
1,3-Dichlorobenzene		ND		14	59
1,4-Dichlorobenzene		ND		9.0	59
Benzyl alcohol	1	ND		35	120
1,2-Dichlorobenzene		ND		20	59
2-Methylphenol		ND		33	120
Bis(2-chloroisopropyl) ether		ND	•	40	180
3 & 4 Methylphenol		ND .		63	240
N-Nitrosodi-n-propylamine		ND		31	120
Hexachloroethane		ND		25	120
Nitrobenzene		ND		18	120
Isophorone		ND	11m	31	120
2-Nitrophenol		ND	k .	27	120
2,4-Dimethylphenol	•	ND		22	120
Benzoic acid		ND		<del>9</del> 80	3000
Bis(2-chloroethoxy)methane	0	ND		30	120
2,4-Dichlorophenol		ND		22	120
1,2,4-Trichlorobenzene	•	ND		12	59 🗸
Naphthalene		81		6.7	24
4-Chloroaniline	•	ND .		32	120 ()
Hexachlorobutadiene		ND		15	59
4-Chloro-3-methylphenol		ND		26	120 🗸
2-Methylnaphthalene		210		3.7	24
Hexachlorocyclopentadiene		ND		30	120 🗸
2,4,6-Trichlorophenol		ND		39	180
2,4,5-Trichlorophenol		ND		27	120
2-Chloronaphthalene		ND		2.2	24
2-Nitroaniline		ND		22	120
. Dimethyl phthalate		ND		9.1	120
Acenaphthylene		ND		2.7	24
2,6-Dinitrotoluene		ND		22	120
3-Nitroaniline		ND		34	120 <b>Y</b>
Acenaphthene		160		6.7	24
2,4-Dinitrophenol		ND	*hav	240	1200
4-Nitrophenol		ND		310	1200
Dibenzofuran		ND		20	120
2,4-Dinitrotoluene	·	ND		17	120
Diethy! phthalate		ND		8.5	120
4-Chlorophenyl phenyl ether		ND		19	120 🗸
Fluorene	•	180		3.1	24
4-Nitroaniline		ND		22	120 V

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Job Number: 580-5689-1

Client Sample ID:

07040104

Lab Sample ID:

580-5689-2

Client Matrix:

Solid

% Moisture:

16.4

Date Sampled:

04/17/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Dilution:

Date Analyzed:

Date Prepared:

8270C 3550B

10

Analysis Batch: 580-18161 Prep Batch: 580-17981

Instrument ID:

**SEA040** 

Lab File ID:

ak009340.D

Initial Weight/Volume:

20.2264 g

Final Weight/Volume:

2 mL

Injection Volume:

05/01/2007 1840 04/24/2007 0833

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol		ND		320	1200 🗸
N-Nitrosodiphenylamine		. ND		18	59
4-Bromophenyl phenyl ether		ND		12	120
Hexachlorobenzene		ND		13	59 🗸
Pentachlorophenol		ND .		37	120 🖤
Phenanthrene	•	420		4.7	24
Anthracene		91		5.1	24
Di-n-butyl phthalate		69 <b>U</b>	J B	15	240
Fluoranthene		65	14m	3.7	24
Pyrene		370		3.2	24
Butyl benzyl phthalate		ND		34	120 U
3,3'-Dichlorobenzidine		ND		11	240 <b>U</b>
Benzo[a]anthracene		120		7.7	30
Chrysene	· .	180		8.9	30
Bis(2-ethylhexyl) phthalate	i	ND		280	1800 <b>)</b>
Di-n-octyl phthalate	•	ND		39	240 ()
Benzo[a]pyrene	i	85	-	10	35
Indeno[1,2,3-cd]pyrene		51 <b>T</b> .		14	47 .
Dibenz(a,h)anthracene		ND		14	47 ()
Benzo[g,h,i]perylene		57		8.6	30
Carbazole		ND		39	180 <b>( )</b>
1-Methylnaphthalene		400		10	35
Benzo[b]fluoranthene		52		6.4	24 []
Benzo[k]fluoranthene		ND		8.2	30 <b>V</b>
Surrogate	•	%Rec		Accep	otance Limits
2-Fluorophenol		55		36 -	145
Phenol-d5		55		38 -	149
Nitrobenzene-d5		99		38 -	141
2-Fluorobipheny!		86		42 -	140
2,4,6-Tribromophenol		199	. X1	28 -	143
Terphenyl-d14		78		42 -	151

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040106

Lab Sample ID:

580-5689-4

05/01/2007 1907

04/24/2007 0833

Client Matrix:

Solid

% Moisture:

27.3

Date Sampled:

04/17/2007 0000

Date Received: 04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8270C 3550B

1.0

Analysis Batch: 580-18161 Prep Batch: 580-17981

Instrument ID: SEA040

Lab File ID:

ak009341.D

Initial Weight/Volume:

20.0015 g

Final Weight/Volume:

2 mL

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL 2
Phenol		ND		3.7	14 🗸
Bis(2-chloroethyl)ether	•	ND		4.1	14
2-Chlorophenol		ND		3.2	14
1,3-Dichlorobenzene		ND		1.6	6.9
1,4-Dichlorobenzene		ND		1.0	6.9
Benzyl alcohol		ND	. • .	4.1	14
1,2-Dichlorobenzene		ND		2.3	6.9
2-Methylphenol		ND		3.8	14
Bis(2-chloroisopropyl) ether		ND		4.7	21
3 & 4 Methylphenol		ND	4	7.3	27
N-Nitrosodi-n-propylamine		ND		3.6	14
Hexachloroethane		ND		2.9	14
Nitrobenzene	4	ND	a a	2.1	14
Isophorone		ND	A Providence	3.6	14
2-Nitrophenol		ND	7 %	3.2	14
2,4-Dimethylphenol		ND		2.6	14
Benzoic acid		ND	•	110	340
Bis(2-chloroethoxy)methane		ND	44	3.4	14
2,4-Dichlorophenol		ND		2.6	14
1,2,4-Trichlorobenzene		ND		1.4	6.9
Naphthalene		ND		0.78	2.7
4-Chloroaniline		ND		3.7	14
Hexachlorobutadiene		ND		1.8	6.9
4-Chloro-3-methylphenol		ND		3.0	14
		ND		0.43	2.7
2-Methylnaphthalene		ND		3.4	14
Hexachiorocyclopentadiene	•	ND		4.5	21
2,4,6-Trichlorophenol		ND		3.2	14
2,4,5-Trichlorophenol		ND		0.26	2.7
2-Chloronaphthalene	•	ND		2.6	14
2-Nitroaniline		2.1	J	1.1	14 😿
Dimethyl phthalate		ND .	J	0.32	2.7 🗸
Acenaphthylene				2.6	14 1.
2,6-Dinitrotoluene		ND	•	4.0	14
3-Nitroaniline		ND		4.0 0.78	
Acenaphthene	4	6.3	* L C		2.7
2,4-Dinitrophenol		ND	3 m	28	140 (/ )
4-Nitrophenol		ND		36	140
Dibenzofuran		ND	•	2.3	14
2,4-Dinitrotoluene		ND .		1.9	14
Diethyl phthalate		1.9	J	0.99	14
4-Chlorophenyl phenyl ether		ND ·		2.2	14 ()
Fluorene		9.7		0.36	2.7
4-Nitroaniline		ND	_	2.6	14 V
•					

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MW5240

STL Seattle

Job Number: 580-5689-1

Client Sample ID:

07040106

Lab Sample ID:

580-5689-4

05/01/2007 1907

04/24/2007 0833

Client Matrix:

Solid

% Moisture:

27.3

Date Sampled:

04/17/2007 0000 ,

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Dilution:

Date Analyzed:

Date Prepared:

8270C 3550B

1.0

Analysis Batch: 580-18161 Prep Batch: 580-17981

Instrument ID:

SEA040

Lab File ID:

ak009341.D

Initial Weight/Volume:

20.0015 g

2 mL

Final Weight/Volume:

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol		ND		37	140 🗸
N-Nitrosodiphenylamine		ND		2.1	6.9
4-Bromophenyl phenyl ether		ND		1.4	14
Hexachiorobenzene		ND		1.5	6.9
Pentachlorophenol		ND		4.3	. 14 🗸
Phenanthrene	•	1.3	J	0.55	2.7
Anthracene		ND		0.59	2.7 <b>U</b>
Di-n-butyl phthalate		9.8 <b>U</b>	JEW	1.8	27
Fluoranthene		ND		0.43	2.7 🔰
Pyrene		ND		0.37	2.7
Butyl benzyl phthalate		ND		4.0	14
3,3'-Dichlorobenzidine		ND		1.3	27
Benzo[a]anthracene		ND		0.89	3.4
Chrysene		ND	<b>-</b> ,	1.0	3.4 <b>V</b>
Bis(2-ethylhexyl) phthalate		44	J	33	210
Di-n-octyl phthalate		ND		4.5	27 ()
Benzo[a]pyrene		ND		1.2	4.1 🐧
Indeno[1,2,3-cd]pyrene		ND		1.6	5.5
Dibenz(a,h)anthracene		ND		1.6	5.5
Benzo[g,h,i]perylene		ND		1.0	3.4
Carbazole		ND		4.5	21
1-Methylnaphthalene		ND		1.2	4.1
Benzo[b]fluoranthene		ND		0.74	2.7
Benzo[k]fluoranthene		ND		0.95	3.4
Surrogate		%Rec			otance Limits
2-Fluorophenol		65			145
Phenol-d5		70			149
Nitrobenzene-d5		59	÷		141
2-Fluorobiphenyl		59	•		140
2,4,6-Tribromophenol		66			143
Terphenyl-d14		89		42 -	151
					•

5-24-07

Job Number: 580-5689-1

Client Sample ID:

07040108

Lab Sample ID:

580-5689-5

Client Matrix:

Solid

% Moisture:

-10.3

Date Sampled:

04/17/2007 0000

Date Received:

04/23/2007 1235

## 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

Analysis Batch: 580-18161

Instrument ID:

**SEA040** 

Preparation:

3550B

Prep Batch: 580-17981

Lab File ID:

ak009359.D

Dilution:

10

Initial Weight/Volume:

20.5634 g

Date Analyzed:

Date Prepared:

05/02/2007 1455 04/24/2007 0833 Final Weight/Volume:

2 mL

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL , 2
Phenol		ND		29	110 🗸
Bis(2-chloroethyl)ether		ND		33	110
2-Chlorophenol		ND		25	110
1,3-Dichlorobenzene		ND		13	54
1,4-Dichlorobenzene		ND		8.2	54
Benzyl alcohol		ND		33	110
1,2-Dichlorobenzene		ND		18	54 🖊
2-Methylphenol		ND		30	110 \
Bis(2-chloroisopropyl) ether		ND	•	37	160
. 3 & 4 Methylphenol	,	ND		57	220
N-Nitrosodi-n-propylamine		ND		. 28	110 {
Hexachloroethane		ND		23	110
Nitrobenzene	•	ND	,	16	110
isophorone		ND	*////	28	110
2-Nitrophenol		ND	•	25	110
2,4-Dimethylphenol	,	nD ND		21	110
Benzoic acid	1	L ND		900	2700 Jaw
Bis(2-chloroethoxy)methane	'	ND		27	110 🐠
2,4-Dichlorophenol		ND		21	110
1,2,4-Trichlorobenzene		ND.		11	54 <b>Y</b>
Naphthalene		19	J	6.2	22
4-Chloroaniline		ND		29	110 🔰
Hexachlorobutadiene		ND		14	54
4-Chloro-3-methylphenol		ND		24	110 🖖
2-Methylnaphthalene		36		3.4	22
Hexachlorocyclopentadiene		ND		27	110 (27
2,4,6-Trichlorophenol		ND		36	160
2,4,5-Trichlorophenol		ND		25	110
2-Chloronaphthalene		ND		2.1	22
2-Nitroaniline		ND		21	110
Dimethyl phthalate		ND		8.3	110
Acenaphthylene		5.7	J	2.5	22 *
2,6-Dinitrotoluene		ND		21	110 <i>U</i>
3-Nitroaniline		ND		31	110
Acenaphthene		ND	,	6.2	22
2,4-Dinitrophenol		ND	M	220	1100
4-Nitrophenol		ND	( 100	280	1100
Dibenzofuran		ND		18	110
2,4-Dinitrotoluene		ND		15	110 🗸
Diethyl phthalate		8.0	J	7.8	110
4-Chlorophenyl phenyl ether		ND	-	17	110 0
Fluorene		ND		2.8	22 ]/
4-Nitroaniline		ND		21	$\frac{1}{110}$ $\mathbf{V}$
4-MILOAIIIIII IE		NE		- ·	•

Page 13 of 1246

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040108

Lab Sample ID:

580-5689-5

Client Matrix:

Solid

% Moisture:

10.3

Date Sampled:

04/17/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18161

Instrument ID:

SEA040

3550B Preparation:

Prep Batch: 580-17981

Lab File ID:

ak009359.D

Dilution:

10

05/02/2007 1455

Date Analyzed: Date Prepared:

04/24/2007 0833

Initial Weight/Volume:

20.5634 g -

Final Weight/Volume:

2 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	*	MD		290	
N-Nitrosodiphenylamine	•	ND		16	54
4-Bromophenyl phenyl ether		ND		11	110
Hexachlorobenzene		ND		12	54
Pentachlorophenol		ND		34	110 <b>V</b>
Phenanthrene	**.	43		4.3	22
Anthracene		7.1 <del></del>	J	4.7	22
Di-n-butyl phthalate	·	74 <b>[]</b>	J-BMV	14	220
Fluoranthene		61	W.	3.4	22
Pyrene		65		2.9	22
Butyl benzyl phthalate		△ ND	•	31	110 🗸
3,3'-Dichlorobenzidine		K-ND-	<del></del>		<del>220-Ll</del> w
Benzo[a]anthracene		38		7.0	27
Chrysene		48		8.1	27
Bis(2-ethylhexyl) phthalate		ND		260	1600 <b>[/</b>
Di-n-octyl phthalate	•	ND		36	220 <b>U</b>
Benzo[a]pyrene		58		9.2	33
Indeno[1,2,3-cd]pyrene	•	75 I		13	43
Dibenz(a,h)anthracene		36	A sow	13	43
Benzo[g,h,i]perylene		59	's In-	7 <i>.</i> 9	27
Carbazole	•	ND		36	160
1-Methylnaphthalene	•	19	J	9.4	33
Benzo[b]fluoranthene		59		5.9	22
Benzo[k]fluoranthene		27		7.5	27
·		%Rec		Acceptan	ce Limits
Surrogate				36 - 145	
2-Fluorophenol		40		38 - 149	
Phenol-d5		39			
Nitrobenzene-d5		50		38 - 141	
2-Fluorobiphenyl		59		42 - 140	
2,4,6-Tribromophenol		217	ΧI	28 - 143	
Terphenyl-d14		88		42 - 151	
· -					

Job Number: 580-5689-1

Client Sample ID:

07040110

Lab Sample ID:

580-5689-6

Client Matrix:

Solid

% Moisture: 22.7

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

## 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18161

Instrument ID: SEA040

Preparation:

3550B

Lab File ID:

ak009346.D

Dilution:

10

Prep Batch: 580-17981

Initial Weight/Volume: Final Weight/Volume:

20.6574 g 2 mL

05/01/2007 2125 Date Analyzed: Date Prepared:

Injection Volume: 04/24/2007 0833

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL 11
Phenol		ND		34	130 🗸
Bis(2-chloroethyl)ether		ND		38	130
2-Chlorophenol		ND		29	130
1,3-Dichlorobenzene		ПD		15	63
1,4-Dichlorobenzene		ND		9.5	63
Benzyl alcohol		ND		38	130,
1,2-Dichlorobenzene	*	ND		21	63
2-Methylphenol	•	ND		35	130
Bis(2-chloroisopropyl) ether		ND .		43	190 \
3 & 4 Methylphenol		ND		66	250 \
N-Nitrosodi-n-propylamine		ND		. 33	130
Hexachloroethane		ND		26	130.
Nitrobenzene	•	ND	•	19	130
Isophorone	•	ND	Mm	33	130
2-Nitrophenol	•	ND		29	130
2,4-Dimethylphenol		ND		24	130
Benzoic acid		ND		1000	3100 🗸
Bis(2-chloroethoxy)methane		77	J	31	130
2,4-Dichlorophenol	•	ND		24	130 🕡
1,2,4-Trichlorobenzene		ND		12	63 <b>U</b>
Naphthalene		3600		7.1	25
4-Chloroaniline		ND		34	130 🗸
Hexachlorobutadiene		ND		16	63
4-Chloro-3-methylphenol		ND		28	130
Hexachlorocyclopentadiene		ND		31	130
2,4,6-Trichlorophenol		ND		41	190
2,4,5-Trichlorophenol		ND		29	130
2-Chloronaphthalene		ND		2.4	25
2-Nitroaniline		ND		24	130
Dimethyl phthalate		ND		9.6	130
- Acenaphthylene		ND		2.9	25
2,6-Dinitrotoluene		ND .		24	130
3-Nitroaniline		ND		36	130
Acenaphthene		1500	,	7.1	25
2,4-Dinitrophenol		ND	10m	260	1300 UJ
4-Nitrophenol		ND	71.0	330	1300
Dibenzofuran		ND		21	130
		ND		18	130
2,4-Dinitrotoluene		ND		9.0	130
Diethyl phthalate		ND		20	130
4-Chlorophenyl phenyl ether		2800		3.3	25
Fluorene		ND		24	130 <b>U</b>
4-Nitroaniline		ND		340	1300 ()
4,6-Dinitro-2-methylphenol		MD		J-10	1300 0

Page 15 of 1246

Job Number: 580-5689-1

Client Sample ID:

07040110

Lab Sample ID:

580-5689-6

05/01/2007 2125

Client Matrix:

Solid

% Moisture:

22.7

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

## 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8270C 3550B

10 -

Analysis Batch: 580-18161

Instrument ID:

SEA040 ak009346.D

Prep Batch: 580-17981

Lab File ID: Initial Weight/Volume:

Final Weight/Volume:

20.6574 g

2 mL

04/24/2007	0833	

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
N-Nitrosodiphenylamine		ND		19	63 🗸
4-Bromophenyl phenyl ether		ND		13	130
Hexachlorobenzene	•	ND		14	63
Pentachlorophenol	•	ND		39	130
Phenanthrene		5800		5.0	25
Anthracene		700	/	5.4	25
Di-n-butyl phthalate		ND	Am	16	250 🗸
Fluoranthene		460		3.9	25
Pyrene		840		3.4	25
Butyl benzyl phthalate		ND		36	130 🕖
3,3'-Dichlorobenzidine		ND		11	250 ( )
Benzo[a]anthracene		210		8.1	31
Chrysene		360		9.4	31
Bis(2-ethylhexyl) phthalate		ND		300	1900 ${\cal O}$
Di-n-octyl phthalate		ND		41	250 <b>(</b> )
Benzo[a]pyrene		110		11	38
Indeno[1,2,3-cd]pyrene		ND		15	50 <b>V</b>
Dibenz(a,h)anthracene		ND .		15	50 <b>(</b> )
Benzo[g,h,i]perylene		57		9.1	_ 31 ,
Carbazole	•	ND		41	190 🔰
Benzo[b]fluoranthene	•	110		6.8	25 (
Benzo[k]fluoranthene		· ND		8.6	31 ()
Surrogate		%Rec		Accept	ance Limits
2-Fluorophenol		56		36 - 1	
Phenol-d5		85		38 - 1	49
Nitrobenzene-d5		566	ΧI	38 - 1	
2-Fluorobiphenyl		105		42 - 1	40
2,4,6-Tribromophenol		193	ΧI	28 - 1	
Terphenyl-d14	•	105		42 - 1	151

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040110

Lab Sample ID:

580-5689-6

05/02/2007 1522

04/24/2007 0833

Client Matrix:

Solid

% Moisture:

22.7

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared;

Dilution:

8270C 3550B

100

Analysis Batch: 580-18161 Prep Batch: 580-17981

Instrument ID:

SEA040

Lab File ID:

ak009360.D

Initial Weight/Volume:

20.6574 g

Final Weight/Volume:

2 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL	
2-Methylnaphthalene		23000		39	250	
1-Methylnaphthalene		16000		110	380	

Job Number: 580-5689-1 Client: Ecology and Environment, Inc.

Client Sample ID:

07040111

Lab Sample ID:

580-5689-7

Client Matrix:

Water

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

## 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18102

Instrument ID:

SEA040 ak009226.D

Preparation:

3510C

Prep Batch: 580-18063

Lab File ID: Initial Weight/Volume:

905 mL

Dilution:

1.0

Final Weight/Volume:

1 mL

Date Analyzed: Date Prepared: 04/26/2007 1635 04/25/2007 1300

Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Phenol	ND		0.0082	0.33
Bis(2-chloroethyl)ether	ND		0.020	0.22
2-Chlorophenol	ND		0.024	0.22
1,3-Dichlorobenzene	ND		0.012	0.22
1,4-Dichlorobenzene	ND		0.013	0.22 🎷
Benzyl alcohol	0.015	J	0.014	0.22
1,2-Dichlorobenzene	ND		0.012	0.22
2-Methylphenol	ND		0.042	0.22 \
Bis(2-chloroisopropyl) ether	ND		0.0097	0.22
3 & 4 Methylphenol	ND		0.019	0.44
N-Nitrosodi-n-propylamine	ND		0.022	0.22
Hexachloroethane	ND		0.014	0.33
Nitrobenzene	ND		0.0083	0.22
Isophorone	ND		0.012	0.22
2-Nitrophenol	ND		0.023	0.22
2,4-Dimethylphenol	ND		0.020	1.1
Benzoic acid	ND		0.023	1.1
Bis(2-chloroethoxy)methane	ND		0.010	0.22
2,4-Dichlorophenol	ND		0.014	0.22
1,2,4-Trichlorobenzene	ND		0.011	0.22 🗸
Naphthalene	0.0079	J	0.0015	0.22
4-Chloroaniline	ND		0.021	0.22 🗸
Hexachlorobutadiene	ND		0.018	0.33
4-Chloro-3-methylphenol	ND		0.015	0.22 🗸
2-Methylnaphthalene	0.016	J	0.0061	0.11
Hexachlorocyclopentadiene	ND		0.013	1.1 <i>()</i>
2,4,6-Trichlorophenol	ND		0.011	0.33 \
2,4,5-Trichlorophenol	ND .		0.0094	0.22
2-Chloronaphthalene	ND		0.0033	0.033
2-Nitroaniline	ND		0.012	0.22 <b>V</b>
Dimethyl phthalate	0.029	J	0.013	0.22
Acenaphthylene	ND		0.0029	0.044()
2,6-Dinitrotoluene	ND		0.015	0.22
3-Nitroaniline	ИD		0.062	0.22
Acenaphthene	ND		0.0013	0.055
2,4-Dinitrophenol	ND		0.064	2.8
4-Nitrophenol	ND		0.18	1.1
Dibenzofuran	ND		0.011	0.22
2,4-Dinitrotoluene	ND		0.013	0.22 V
Diethyl phthalate	0.060	,J	0.010	0.22
4-Chlorophenyl phenyl ether	ND		0.013	0.22 U
Fluorene	0.0076	J	0.0046	0.033
4-Nitroaniline	ND		0.020	0.33 V
1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			$\wedge$	

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Job Number: 580-5689-1

Client Sample ID:

07040111

Lab Sample ID:

580-5689-7

Client Matrix:

Water

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18102

Instrument ID:

SEA040

Preparation:

3510C

Prep Batch: 580-18063

Lab File ID:

ak009226.D

Dilution: 1.0

0.1

Initial Weight/Volume: Final Weight/Volume:

905 mL 1 mL

Date Analyzed: Date Prepared: 04/26/2007 1635 04/25/2007 1300

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		0.059	2.2 ( )
N-Nitrosodiphenylamine	ND		0.014	0.22
4-Bromophenyl phenyl ether	ND		0.011	0.22
Hexachlorobenzene	ND	•	0.0091	0.22
Pentachlorophenol	, ND		0.014	0.39 🎷
Phenanthrene	0.0093	J	0.0027	0.044
Anthracene	ND	• •	0.0021	0.022 <b>(/</b>
Di-n-butyl phthalate	10.16 mm	J 18	0.0097	0.22 <b>V</b>
Fluoranthene	ND ND		0.0030	0.028
Pyrene	ND	11	0.0022	0.033 <b>D</b>
Butyl benzyl phthalate	<del>-0:14 p</del> u	<b>√</b> (₿	0.027	0.33 <i>U</i> .
3,3'-Dichlorobenzidine	ND	11	0.18	1.1 <i>U</i>
Benzo[a]anthracene	ND	11	0.0036	0.033
Chrysene	ND	- 11	0.0050	0.022
Bis(2-ethylhexyl) phthalate	- <del>0.33</del> n⊶	J B	0.035	1.7 <b>U</b>
Di-n-octyl phthalate	ND .	<b>~</b>	0.020	0,22 <b>V</b>
Benzo[a]pyrene	· ND	-	0.0030	0.022
Indeno[1,2,3-cd]pyrene	ND		0.0056	0.033
Dibenz(a,h)anthracene	∠ND	-	0.0051	0.033
Benzo[g,h,i]perylene	ND		0.0066	0.033
Carbazole	ND		0.0099	0.22 🎶
1-Methylnaphthalene	0.012	J	0.0057	0.033
Benzo[b]fluoranthene	ND		0.0051	0.044
Benzo[k]fluoranthene	ND		0.0061	0.033 //
Surrogate	%Rec		Accepta	ance Limits
2-Fluorophenol	35		10 - 13	
Phenol-d5	21		10 - 10	
Nitrobenzene-d5	77		34 - 14	
2-Fluorobiphenyl	71		35 - 14	
2,4,6-Tribromophenol	71		29 - 1	
Terphenyl-d14	83		35 - 16	36



Job Number: 580-5689-1

Client Sample ID:

07040114

Lab Sample ID:

580-5689-9

05/01/2007 2152

04/24/2007 0833

Client Matrix:

Solid

% Moisture:

27.0

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8270C 3550B

10

Analysis Batch: 580-18161 Prep Batch: 580-17981

Instrument ID:

SEA040

Lab File ID:

ak009347.D

Initial Weight/Volume:

20.8465 g

Final Weight/Volume:

2 mL

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL 1
Pheno!		ND		35	130
Bis(2-chloroethyl)ether		ND		39	130
2-Chlorophenol		ND ·		30	130 '
1,3-Dichlorobenzene		ND		16	66
1,4-Dichlorobenzene		ND .		10	66
Benzyl alcohol		ND		39	130
1,2-Dichlorobenzene		ND		22	66
2-Methylphenol		ND		37	130
Bis(2-chloroisopropyl) ether		ND		45	200
3 & 4 Methylphenol		ND		70	260
N-Nitrosodi-n-propylamine		ND		34	130
Hexachloroethane		ND.		28	. 130
Nitrobenzene		ND	,	20	130
Isophorone		ND	1 mw	34	130
2-Nitrophenol		ND		30	130
		ND		25	130
2,4-Dimethylphenol		ND		1100	3300
Benzoic acid		ND		33	130
Bis(2-chloroethoxy)methane		ND		25	130
2,4-Dichlorophenol	4	ND		13	66
1,2,4-Trichlorobenzene		4700		7.5	26
Naphthalene		ND		35	130 🕖
4-Chloroaniline		ND		17	66
Hexachlorobutadiene		ND		29	130
4-Chloro-3-methylphenol		ND		33	130
Hexachlorocyclopentadiene		ND ND		43	200
2,4,6-Trichlorophenol				30	130
2,4,5-Trichlorophenol		ND		2.5	26
2-Chloronaphthalene		ND		2.5 25	130
2-Nitroaniline		ND		25 10	130
Dimethyl phthalate		ND			
Acenaphthylene		ND		3.0	26
2,6-Dinitrotoluene		ND		25	130
3-Nitroaniline		ND		38	130 🗸
Acenaphthene		3200	<i>(</i> -	7.5	26
2,4-Dinitrophenol		ND	~ M~	270	1300
4-Nitrophenol		ND	• • •	340	1300
Dibenzofuran		ND		22	130
2,4-Dinitrotoluene		ND		18	130
Diethyl phthalate		ND		9.5	130
4-Chlorophenyl phenyl ether		ND		21	130
Fluorene		4900		3.4	26
4-Nitroaniline		ND		25	130 <b>V</b>
		ND		350	1300
4,6-Dinitro-2-methylphenol		ND		350	1300

Page 20 of 1246

1 MW 5 WA

Job Number: 580-5689-1

Client Sample ID:

07040114

Lab Sample ID:

580-5689-9

Client Matrix:

Solid

% Moisture:

27.0

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18161

Instrument ID:

Preparation:

3550B

Prep Batch: 580-17981

Lab File ID:

ak009347.D

Dilution: 10 Initial Weight/Volume: Final Weight/Volume: 20.8465 g 2 mL

Date Analyzed: Date Prepared:

05/01/2007 2152 04/24/2007 0833

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
N-Nitrosodiphenylamine		ND		20	66 <b>(</b> /
4-Bromophenyl phenyl ether		ND		13	130
Hexachlorobenzene		ND		14	66
Pentachlorophenol		ND		41	130
Phenanthrene	•	3800		5.3	. 26
Anthracene		250	,	5.6	26
Di-n-butyl phthalate		ND	Me	. 17	260 🕖
Fluoranthene		99	, -	4.1	26
Pyrene		240		3.5	26 . 1
Butyl benzyl phthalate	•	ND		38	130 🗸
3,3'-Dichlorobenzidine		ND		12	260 🕖
Benzo[a]anthracene		53		8.5	33
Chrysene		120		9.9	33
Bis(2-ethylhexyl) phthalate		ND		320	2000🗸
Di-n-octyl phthalate		ND		43	260
Benzo[a]pyrene	• .	ND		11	39
Indeno[1,2,3-cd]pyrene		ND		16	53
Dibenz(a,h)anthracene		ND		16	53
Benzo[g,h,i]perylene		ND		9.6	33
Carbazole		ND		43	200
Benzo[b]fluoranthene		ND .		7.1	26
Benzo[k]fluoranthene		ND		9.1	33 🖞
Surrogate		%Rec		Acceptano	e Limits
2-Fluorophenol	<u></u>	277	ΧI	36 - 145	
Phenol-d5		67		38 - 149	
Nitrobenzene-d5		1490	X1	38 - <b>14</b> 1	
2-Fluorobiphenyl		140		42 - 140	
2,4,6-Tribromophenol		186	1 X	28 - 143	
Terphenyl-d14		94		42 - 151	
respirently of the					

mw

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040114

Lab Sample ID:

580-5689-9

Client Matrix:

Solid

% Moisture:

27.0

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18161

Instrument ID:

SEA040

Preparation: Dilution:

3550B

Lab File ID:

ak009361.D

100

Prep Batch: 580-17981

Initial Weight/Volume:

20.8465 g

Date Analyzed:

Final Weight/Volume:

2 mL

05/02/2007 1549 Date Prepared:

04/24/2007 0833

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL .	
2-Methylnaphthalene		44000		41	260	
1-Methylnaphthalene		30000		110	390	

Job Number: 580-5689-1

Client Sample ID:

07040116

Lab Sample ID:

580-5689-10

05/01/2007 2220

04/24/2007 0833

Client Matrix:

Solid

% Moisture:

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8270C 3550B

10

Analysis Batch: 580-18161 Prep Batch: 580-17981

12.0

Instrument ID:

ID: SEA040

Lab File ID:

ak009348.D

Initial Weight/Volume:

20.3703 g

Final Weight/Volume:

2 mL

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL .
Phenol		ND		30	110 📿
Bis(2-chloroethyl)ether		ND .		33	110 {
2-Chiorophenol		ND		26	110
1,3-Dichlorobenzene		ND		13	56
1,4-Dichlorobenzene		ND		8.5	56
Benzyi alcohoi		ND		33	110
1,2-Dichlorobenzene		ND		19	56
2-Methylphenol		ND		31	110
Bis(2-chloroisopropyl) ether		ND		38	170
3 & 4 Methylphenol		ND		59	220
N-Nitrosodi-n-propylamine		ND		29	110
Hexachloroethane		ND		23	110
Nitrobenzene		ND	,	17	110
Isophorone		ND ·	Jun	29	110
2-Nitrophenol		ND	E .	26	110
2,4-Dimethylphenol		ND		21	110
Benzoic acid		ND		930	2800
Bis(2-chloroethoxy)methane		ND		28	110
2,4-Dichlorophenol		ND		21	110
1,2,4-Trichlorobenzene		ND		11	56
Naphthalene	·	ND		6.4	22
4-Chloroaniline		ND		30	110
Hexachlorobutadiene		ND		14	56
4-Chloro-3-methylphenol		ND		25	110
2-Methylnaphthalene		22	J	3.5	22
Hexachlorocyclopentadiene		ND		28	110 ()
2,4,6-Trichlorophenol		ND		37	170
2,4,5-Trichlorophenol		ND		26	110
2-Chloronaphthalene		ND		2.1	22
2-Nitroaniline		ND		21	110
Dimethyl phthalate		ND		8.6	110
Acenaphthylene		ND		2.6	22
2,6-Dinitrotoluene		ND		21	110
3-Nitroaniline		ND		32	110
Acenaphthene		ND	. 1	6.4	22
2,4-Dinitrophenol		ND	MKY	230	1100
4-Nitrophenol		ND	71.	290	1100
Dibenzofuran		ND		19	110
2,4-Dinitrotoluene		ND		16	110
Diethyl phthalate		ND		8.0	110
4-Chlorophenyl phenyl ether		ND		18	110
Fluorene		ND		2.9	22
4-Nitroaniline		ND		2. <del>9</del> 21	110
		IND		$\bigcap_{\Lambda_{\bullet}}$	110 4

Page 23 of 1246

STL Seattle

MW5240

Job Number: 580-5689-1

Client Sample ID:

07040116

Lab Sample ID:

Client Matrix:

Solid

580-5689-10

% Moisture:

12.0

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18161

Instrument ID:

**SEA040** 

Preparation:

3550B

Lab File ID:

ak009348.D

Dilution:

10

Prep Batch: 580-17981

Initial Weight/Volume:

20.3703 g

Date Analyzed:

05/01/2007 2220

Final Weight/Volume:

2 mL

Date Prepared:

04/24/2007 0833

Injection	Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL , 1
4,6-Dinitro-2-methylphenol		ND		300	1100 🗸
N-Nitrosodiphenylamine		ND		17	56
4-Bromophenyl phenyl ether		ND		11	110
Hexachlorobenzene		ND		12	56
Pentachlorophenol		, ND		35	110
Phenanthrene		ND		4.5	22
Anthracene		ND	_	4.8	22
Di-n-butyl phthalate		ND	ZM	14	220
Fluoranthene	•	ND	•	3.5	22
Pyrene	•	ND		3.0	22
Butyl benzyl phthalate		ND		32	110
3,3'-Dichlorobenzidine		ND		10	220
Benzo[a]anthracene		ND	•	7.2	28
Chrysene		ND		8.4	28
Bis(2-ethylhexyl) phthalate		ND		270	1700
Di-n-octyl phthalate		ND		37	220
Benzo[a]pyrene		ND		9.5	33
Indeno[1,2,3-cd]pyrene		ND		13	45
Dibenz(a,h)anthracene		ND		13	45
Benzo[g,h,i]perylene		ND		8.1	28
Carbazole		ND		37	170 🗸
1-Methylnaphthaiene		15	J	9.7	33
Benzo[b]fluoranthene		ND		6.0	22 💢
Benzo[k]fluoranthene		ND		7.7	28 🕽
Surrogate		%Rec		Accept	ance Limits
2-Fluorophenol		55		36 - 1	45
Phenol-d5		60		38 - 1	149
Nitrobenzene-d5		77		38 - 1	
2-Fluorobiphenyl		61		42 - 1	
2,4,6-Tribromophenol		215	ΧI	28 - 1	
Terphenyl-d14		69	•	42 - 1	151



Job Number: 580-5689-1

Client Sample ID:

07040117

Lab Sample ID:

580-5689-11

Client Matrix:

Solid

% Moisture:

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation: 8270C

Analysis Batch: 580-18161

13.6

Instrument ID: Lab File ID:

SEA040 ak009349.D

3550B Dilution:

Prep Batch: 580-17981

20.8811 g

Date Analyzed: Date Prepared: 10 05/01/2007 2247

Initial Weight/Volume:

Final Weight/Volume:

2 mL

04/24/2007 0833

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL ,
Phenol		ND		30	110 ( )
Bis(2-chloroethyl)ether		ND		33	110
2-Chlorophenol		ND		25	110
1,3-Dichlorobenzene		ND		13	55
1,4-Dichlorobenzene		ND		8.4	55
Benzyl alcohol		ND.		33	110
1,2-Dichlorobenzene		ND		19	55
2-Methylphenol		ND		31	110 3
Bis(2-chloroisopropyl) ether		ND	•	38	170
3 & 4 Methylphenol		ND		59	220 5
N-Nitrosodi-n-propylamine	•	ND		29	110
Hexachloroethane		ND		23	110
Nitrobenzene		ND	4	17	110
Isophorone		ND	Man	29	110
2-Nitrophenol	•	ND	· ·	25	110 5
2,4-Dimethylphenol		ND		21	110 5
Benzoic acid		ND		920	2800
Bis(2-chloroethoxy)methane		ND		28	110
2,4-Dichlorophenol		ND		21	110 . 5
1,2,4-Trichlorobenzene		ND		11	55 🗸
Naphthalene		100		6.3	22
4-Chloroaniline		ND		30	110 🗸
Hexachlorobutadiene		ND		14	55
4-Chioro-3-methylphenol		ND ·		24	110 1
2-Methylnaphthalene		210		3.4	22
Hexachlorocyclopentadiene		ND		28	110V_
2,4,6-Trichlorophenol		ND		37	170 ) 丁
2,4,5-Trichlorophenol		ND	- 1	25	110 3
2-Chloronaphthalene		ND		2.1	22
2-Nitroaniline		ND		21	110
Dimethyl phthalate		ND		8.5	110
Acenaphthylene		ND		2.5	22
2,6-Dinitrotoluene		ND		21	110
3-Nitroaniline		ND		32	110 (
Acenaphthene		ND		6.3	22
2,4-Dinitrophenol		ND	MM	230	1100
4-Nitrophenol		ND	2 84.	290	1100
Dibenzofuran		38	J	19	110
2,4-Dinitrotoluene	•	ND	_	16	110 🗘
Diethyl phthalate		ND		8.0	110
4-Chlorophenyl phenyl ether		ND		18	110
Fluorene		ND		2.9	22 /
4-Nitroaniline		ND .		21	110
. ,,	•	· · <del>-</del>			<b>Y</b>

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MW 5040

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040117

Lab Sample ID:

580-5689-11

Client Matrix:

Solid

% Moisture: 13.6 Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

## 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18161

Instrument ID:

SEA040

Preparation:

3550B

Lab File ID:

Dilution:

10

Prep Batch: 580-17981

ak009349.D

Initial Weight/Volume:

20.8811 g

05/01/2007 2247

Final Weight/Volume:

2 mL

Date Analyzed: Date Prepared:

04/24/2007 0833

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol		ND		300	1100
N-Nitrosodiphenylamine		ND		17	<b>5</b> 5
4-Bromophenyl phenyl ether		ND		11	110
Hexachlorobenzene		ND		12	55
Pentachlorophenol		ND	es.	34	110 🗸 🔾
Phenanthrene		89		4.4	22
Anthracene		6.5	J	4.8	22
Di-n-butyl phthalate		58 <b>()</b>	WANT ON	14	220
Fluoranthene		33	1,,,	3.4	<b>22</b> .
Pyrene		43		3.0	22
Butyl benzyl phthalate		ND		32	110 🔾
3,3'-Dichlorobenzidine		ND		10	220 <b>U</b>
Benzo[a]anthracene		29		7.2	28
Chrysene		37		8.3	28
Bis(2-ethylhexyl) phthalate		ND	,	270	1700 <b>V</b>
Di-n-octyl phthalate		ND		37	220 <b>U</b>
Benzo[a]pyrene	•	43		9.4	33
Indeno[1,2,3-cd]pyrene		. 55 📆		13	44
Dibenz(a,h)anthracene		40	J	13	44
Benzo[g,h,i]perylene		57		8.1	28
Carbazole	·	ND		37	170 <b>U</b>
1-Methylnaphthalene		130		9.6	33
Benzo[b]fluoranthene		52		6.0	22
Benzo[k]fluoranthene		11	J	7.6	28
Surrogate		%Rec		Accep	tance Limits
2-Fluorophenol		24	ΧI	36 -	
Phenol-d5		29	X1	38 -	149
Nitrobenzene-d5		53		38 -	141
2-Fluorobiphenyl		49		42 -	140
2,4,6-Tribromophenol		200	ΧI	28 -	
Terphenyl-d14		82		42 -	151



Job Number: 580-5689-1

Client Sample ID:

07040119

Lab Sample ID:

580-5689-12

Client Matrix:

Solid

% Moisture:

23.8

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

Date Prepared:

8270C

Analysis Batch: 580-18161

Instrument ID: Lab File ID:

**SEA040** 

3550B Preparation:

Prep Batch: 580-17981

Initial Weight/Volume:

ak009350.D

Dilution: 10 Date Analyzed:

Final Weight/Volume:

20.2527 g 2 mL

05/01/2007 2315 04/24/2007 0833

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		35 .	130
Bis(2-chloroethyl)ether		ND		39	130
2-Chlorophenol		ND		30	130
1,3-Dichlorobenzene		ND		16	65
1,4-Dichlorobenzene		ND		9.8	65
Benzyl alcohol		ND		39	130
1,2-Dichlorobenzene		ND		22	65
2-Methylphenol		ND		36	130
Bis(2-chloroisopropyl) ether		ND		44	190
3 & 4 Methylphenol		. ND		69	260
N-Nitrosodi-n-propylamine		ND		34	130
Hexachloroethane		ND		27	130
Hexachlorocyclopentadiene		ND	•	32	130
2,4,6-Trichlorophenol		ND		43	190
2,4,5-Trichlorophenol		ND .		<sub>.</sub> 30	130
2-Chloronaphthalene		ND		2.5	26
2-Nitroaniline		ND		25	130
Dimethyl phthalate		ND		10	130
Acenaphthylene		ND		3.0	26
2,6-Dinitrotoluene		ND		25	130
3-Nitroaniline		ND		38	130
Acenaphthene		ND	/	7.4	26
2,4-Dinitrophenol		ND	MIN	270	1300
4-Nitrophenol		ND		340	1300
Dibenzofuran		ND		22	130
2,4-Dinitrotoluene		ND		18	130
Diethyl phthalate		ND		9.3	130
4-Chlorophenyl phenyl ether		ND		21	130
Fluorene		2300		3.4	26
4-Nitroaniline		ND		25	130 ()2) '
4,6-Dinitro-2-methylphenol		ND		350	1300
N-Nitrosodiphenylamine		ND		19	65
4-Bromophenyl phenyl ether		ND		13	130
Hexachlorobenzene ,		ND		14	65
Pentachlorophenol		ND		40	130
Phenanthrene		3600		5.2	26
Anthracene		180 🔼	MM	5.6	26
Di-n-butyl phthalate		ND	\. [h.	17	260 VD
Fluoranthene		170 J		4.0	26
Pyrene		510 5		3.5	26
Butyl benzyl phthalate	,	ND		38	130 []
3,3'-Dichlorobenzidine		ND		12	260 <b>U</b> T
Benzo[a]anthracene		120 🕤		8.4	32

Page 27 of 1246

Job Number: 580-5689-1

Client Sample ID:

07040119

Lab Sample ID:

580-5689-12

Client Matrix:

Solid

% Moisture:

23.8

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18161

Instrument ID:

**SEA040** 

Preparation: 3550B Dilution:

10

Prep Batch: 580-17981

Lab File ID:

ak009350.D

Initial Weight/Volume:

20.2527 g 2 mL

Date Analyzed: 05/01/2007 2315 Date Prepared:

04/24/2007 0833

Final Weight/Volume: Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL	
Chrysene		290		9.7	32	
Bis(2-ethylhexyl) phthalate		ND ~		310	1900 🔾	
Surrogate		%Rec		Acceptance Limits		
2-Fluorophenol		833	XI .	36 - 145		
Phenol-d5		99		38 - 149		
Nitrobenzene-d5	·	15200	ΧI	38 - 14 <sup>-</sup>	1	
2-Fluorobiphenyl		16	XΙ	42 - 140	D	
2,4,6-Tribromophenol		188	ΧI	28 - 143	3	
Terphenyl-d14	•	85		42 - 15	1	

Method:

8270C

Analysis Batch: 580-18161

Instrument ID:

**SEA040** 

Preparation:

3550B

Prep Batch: 580-17981

Lab File ID:

ak009363.D Initial Weight/Volume: 20.2527 g

Dilution:

05/02/2007 1644

Final Weight/Volume:

Date Analyzed: Date Prepared:

04/24/2007 0833

2 mL

Injection Volume:

Analyte	DryWt Corrected: Y Result (ug/Kg)	Qualifier	MDL	RL
Nitrobenzene	ND		19	130 43
isophorone	ND	Am	34	130 / \
2-Nitrophenol	ND		30	130
2,4-Dimethylphenol	ND		25	130
Benzoic acid	ND		1100	3200
Bis(2-chloroethoxy)methane	ND		32	130
2,4-Dichlorophenol	ND		25	130
1,2,4-Trichlorobenzene	ND .		13	65 <b>VV</b>
Naphthalene	6000		7.4	26
4-Chloroaniline	ND		35	130 (/ 🗸
Hexachlorobutadiene	ND		17	65
4-Chloro-3-methylphenol	ND	•	28	130
Di-n-octyl phthalate	ND _		43	260
Benzo[a]pyrene	81 🔾		11	. 39
indeno[1,2,3-cd]pyrene	ND		16	52
Dibenz(a,h)anthracene	ND _		16	52 <b>U</b> J
Benzo[g,h,i]perylene	85 J		9.5	32
Carbazole	ND		43	190 <b>/</b> $J$
Benzo[b]fiuoranthene	80 丁		7.0	26
Benzo[k]fluoranthene	ND 9		8.9	32 V J

Mon 5240

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040119

Lab Sample ID:

580-5689-12

Client Matrix:

Solid

% Moisture:

23.8

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18161

Instrument ID:

**SEA040** 

Preparation:

3550B

Lab File ID:

ak009362.D

Dilution:

100

Prep Batch: 580-17981

Date Analyzed:

05/02/2007 1616

Initial Weight/Volume: Final Weight/Volume:

20.2527 g 2 mL

Date Prepared:

04/24/2007 0833

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL	
2-Methylnaphthalene		15000		40	260	
1-Methylnaphthalene		10000		110	390	

12407

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040120

Lab Sample ID:

580-5689-13

Client Matrix:

Solid

% Moisture:

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

9.9

Method: Preparation: 8270C 3550B Analysis Batch: 580-18161

Instrument ID: Lab File ID:

SEA040 ak009364.D

Dilution:

Prep Batch: 580-17981

Initial Weight/Volume:

20.0697 g 2 mL

Date Analyzed:

100

05/02/2007 1711

Date Prepared:

04/24/2007 0833

Final Weight/Volume: Injection Volume:

Analyte	DryWt Corrected: Y Result (ug/Kg)	Qualifier	MDL	RL , 1
Phenol	K ND		300	1100 Mu
Bis(2-chloroethyl)ether	ND ND	4	330	1100
2-Chlorophenol	V-ND		250	1100
1,3-Dichlorobenzene	I ND		130	550
1,4-Dichlorobenzene	, ND		84	550 🕡
Benzyl alcohol	KND		<del>330</del>	1100 <b>/</b> W
1,2-Dichlorobenzene	, ND		190	550 <b>()</b>
2-Methylphenol	[Z_ND		310	
Bis(2-chloroisopropyl) ether	ND	0	380	1700 <b>U</b> \
3 & 4 Methylphenol	R-ND-		<del>-590</del>	2200
N-Nitrosodi-n-propylamine	ND		290	1100 🕖
Hexachloroethane	ND		230	1100
Nitrobenzene	ND	,	170	1100 🕻 🕻
Isophorone	∧ ND	Amo .	290	1100
2-Nitrophenol	K-ND-		250	1100-
2,4-Dimethylphenol	[ N <del>D</del>		210	1100 · · · · · · · · · · · · · · · · · ·
Benzoic acid	1 R -ND		9200	28000
Bis(2-chloroethoxy)methane	, ND		280	1100 <b>[/</b> ]
2,4-Dichlorophenol	KND		210-	1100 1
1,2,4-Trichlorobenzene	ND		110	550 🗸
Naphthalene	240		63	220
4-Chloroaniline	ND		300	1100 🕖
Hexachlorobutadiene	a ND		140	550
4-Chloro-3-methylphenol	K-ND		240	1100
2-Methylnaphthalene	1400		34	220
Hexachlorocyclopentadiene	a ND		280	1100 <b>()</b>
2,4,6-Trichlorophenol	K-ND		<del>370</del>	17'00 14'
2,4,5-Trichlorophenol	R-ND-		250	1100 🖟
2-Chloronaphthalene	170	J	21	220
2-Nitroaniline	ND		210	1100 🗸
Dimethyl phthalate	ND		85	1100
Acenaphthylene	ND ·		25	220
2,6-Dinitrotoluene	ND		210	1100
3-Nitroaniline	ND		320	1100
Acenaphthene	<b>~</b> 900		63	220
2,4-Dinitrophenol	<u></u>	- AND	2300	11000 Live
4-Nitrophenol	0' <del>-ND</del>		2900	11000 1
Dibenzofuran	200	J	190	1100
2,4-Dinitrotoluene	ND		150	1100 🗸
Diethyl phthalate	ND		80	1100
4-Chlorophenyl phenyl ether	ND		180	1100 🎶
Fluorene	1000		29	220
4-Nitroaniline	ND		210	1100 <b>(</b> )

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STL Seattle

Job Number: 580-5689-1

Client Sample ID:

07040120

Lab Sample ID:

580-5689-13

05/02/2007 1711

04/24/2007 0833

Client Matrix:

Solid

% Moisture: 9.9 Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8270C 3550B

100

Analysis Batch: 580-18161

Instrument ID:

SEA040

Prep Batch: 580-17981

Lab File ID:

ak009364.D

Initial Weight/Volume:

20.0697 g

Final Weight/Volume:

2 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL 4.7
4,6-Dinitro-2-methylpheno!	· R	MD		3000	11000 Ju
N-Nitrosodiphenylamine		ND		170	550 <b>()</b>
4-Bromophenyl phenyl ether		ND		110	1100
Hexachlorobenzene	0	ND		120	550
Pentachlorophenol		ND-		340	<del>1100-)</del> //\_
Phenanthrene	•	> 3300	•	44	220
Anthracene		480		48	220
Di-n-butyl phthalate		<del>-1990                                   </del>	-J-BAW	. 140	2200 <i>U</i>
Fluoranthene		1400	14.	34	220
Pyrene		3200		30	220
Butyl benzyl phthalate		ND		320	1100 🔾
3,3'-Dichlorobenzidine	•	ND		100	2200 🕖
Benzo[a]anthracene		860	•	72	280
Chrysene		1400		83	280
Bis(2-ethylhexyl) phthalate		ND		2700	17000()
Di-n-octyl phthalate		ND		370	2200 😈
Benzo[a]pyrene		650		94	330
Indeno[1,2,3-cd]pyrene		ND		130	440 🗸
Dibenz(a,h)anthracene	-	ND .		130	440 <b>U</b>
Benzo[g,h,i]perylene		480		81	280
Carbazole		950	J	370	1700
1-Methylnaphthalene		1000		96	330
Benzo[b]fluoranthene		490	•	60	220
Benzo[k]fluoranthene	•	ND		76	280 U
Surrogate		%Rec		Acceptanc	e Limits
2-Fluorophenol		0	<b>X</b> 1	36 - 145	
Phenol-d5		0	<b>X</b> 1	38 - 149	
Nitrobenzene-d5		164	XΙ	38 - 141	
2-Fluorobiphenyl	,	81		42 - 140	
2,4,6-Tribromophenol		0	ΧI	28 - 143	
Terphenyl-d14		49		42 - 151	



Job Number: 580-5689-1

Client Sample ID:

07040122

Lab Sample ID:

580-5689-14

Client Matrix:

Solid

% Moisture:

22.3

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18161

Instrument ID:

**SEA040** 

3550B Preparation:

Prep Batch: 580-17981

Lab File ID:

ak009366.D

Dilution:

10

Initial Weight/Volume: Final Weight/Volume:

20.4336 g 2 mL

Date Analyzed:

05/02/2007 1806

Date Prepared:

04/24/2007 0833

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL ,
Phenol		ND		34	130 🗸
Bis(2-chloroethyl)ether		ND		38	130 \
2-Chlorophenol		ND		29	130
1,3-Dichlorobenzene		ND		15	63
1,4-Dichlorobenzene		ND		9.6	63
Benzyl alcohol		ND	•	38	130
1,2-Dichlorobenzene		ND		21	63
2-Methylphenol		ND		<b>3</b> 5	130
Bis(2-chioroisopropyl) ether	-	ND		43	190
3 & 4 Methylphenol		ND		67	250
N-Nitrosodi-n-propylamine		ND		<b>3</b> 3	130
Hexachloroethane		ND		26	130
Nitrobenzene	•	ND	/	19	130
Isophorone		ND	M	33	130
2-Nitrophenol		ND	•	29	130
2,4-Dimethylphenol		ND		24	130
Benzoic acid		ND		1000	3100
Bis(2-chloroethoxy)methane		ND		31	130
2,4-Dichlorophenol		ND		24	130
1,2,4-Trichlorobenzene		ND		12	63
Naphthalene		3100		7.2	25
4-Chloroaniline		ND		34	130 🗸
Hexachlorobutadiene		ND		16	63 Ĵ
4-Chloro-3-methylphenol		ND		28	130
Hexachlorocyclopentadiene		ND		31	130 \
2,4,6-Trichlorophenol	· · · · · · · · · · · · · · · · · · ·	ND		42	190
2,4,5-Trichlorophenol		ND		29	130
2-Chloronaphthalene		ND		2.4	25
2-Nitroaniline		ND		24	130
Dimethyl phthalate		ND		9.7	130
Acenaphthylene		ND		2.9	25
2,6-Dinitrotoluene		ND		24	130
3-Nitroaniline	4	ND	•	37	130
Acenaphthene		ND	/	7.2	25
2,4-Dinitrophenol		ND	FIRM	260	1300
4-Nitrophenol		ND		330	1300
Dibenzofuran		ND		21	130
2,4-Dinitrotoluene		ND		18	130
Diethyl phthalate		ИD		9.1	130
4-Chlorophenyl phenyl ether		ND		20	130 🗸
Fluorene		2900		3.3	25
4-Nitroaniline		ND		24	130 🗸
4,6-Dinitro-2-methylphenol		ND		340	1300 <b>V</b>

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Job Number: 580-5689-1

Client Sample ID:

07040122

Lab Sample ID:

580-5689-14

05/02/2007 1806

.04/24/2007 0833

Client Matrix:

Solid

% Moisture:

22.3

Date Sampled:

04/18/2007 0000

Date Received: 04/23/2007 1235

## 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8270C 3550B

10

Analysis Batch: 580-18161 Prep Batch: 580-17981

SEA040 Instrument ID:

Lab File ID:

ak009366.D

Initial Weight/Volume:

20.4336 g

Final Weight/Volume:

2 mL

		•			
Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL .
N-Nitrosodiphenylamine	, t L L	. ND		19	63 (
4-Bromophenyl phenyl ether		ND		13	130
Hexachlorobenzene		ND		14	63
Pentachlorophenol		ND		39	130 🔽
Phenanthrene		4400		5.0	25
Anthracene		530	,	5.4	25
Di-n-butyl phthalate		ND	/m	16	250 <b>U</b>
Fluoranthene		310	-	3.9	25
Pyrene		690		3.4	25
Butyl benzyl phthalate		ND		37	130 <b>(</b> )
3,3'-Dichlorobenzidine	•	ND		11	250 <b>()</b>
Benzo[a]anthracene		190		8.2	31
Chrysene		370		9.4	31
Bis(2-ethylhexyl) phthalate		ND		300	1900 <b>(</b> /
Di-n-octyl phthalate		ND		42	250 <b>U</b>
Benzo[a]pyrene		110		11	38
Indeno[1,2,3-cd]pyrene	•	ND		15	50 <u>U</u>
Dibenz(a,h)anthracene		ND		15	50 <b>(</b> )
Benzo[g,h,i]perylene		61		9.2	31 . [ ]
Carbazole		ND	•	42	190 🕖
Benzo[b]fluoranthene		85		6.8	25
Benzo[k]fluoranthene		ND		8.7	31 <i>U</i>
Surrogate	•	%Rec		Accept	ance Limits
2-Fluorophenol		41		36 - 1	45
Phenol-d5		57		38 - 1	49
Nitrobenzene-d5		1350	ΧI	38 - 1	41
2-Fluorobiphenyl		83		42 - 1	40
2,4,6-Tribromophenol	• .	228	X1	. 28 - 1	43
Terphenyl-d14		115 -		42 - 1	51

Job Number: 580-5689-1

Client Sample ID:

07040122

Lab Sample ID:

580-5689-14

Client Matrix:

Solid

Client: Ecology and Environment, Inc.

% Moisture:

22.3

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18161

Instrument ID:

SEA040

Preparation:

3550B

Prep Batch: 580-17981

Lab File ID:

ak009365.D

Dilution:

100

Initial Weight/Volume:

20.4336 g

Date Analyzed:

Final Weight/Volume:

2 mL

Date Prepared:

05/02/2007 1738 04/24/2007 0833

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL	
2-Methylnaphthalene	<u> </u>	18000		39	250	
1-Methylnaphthalene		12000		110	380	

Job Number: 580-5689-1

Client Sample ID:

07040124

Lab Sample ID:

580-5689-15

Client Matrix:

Solid

a) 0/ N

DryWt Corrected: Y

% Moisture: 11,2

Result (ug/Kg)

Date Sampled:

04/19/2007 0000

Date Received:

04/23/2007 1235

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation: 8270C

Analysis Batch: 580-18161

Instrument ID:

Qualifier

SEA040

3550B

Lab File ID:

ak009367.D

Dilution:

10

Prep Batch: 580-17981

Initial Weight/Volume:

20.2441 g

Date Analyzed: 05/02/2007 1833

Final Weight/Volume: Injection Volume:

MDL

2 mL

RL

Date Prepared:

Analyte

04/24/2007 0833

	ND		30	110 🗸
Phenol Philippin de National Philippin de Na	ND ND		30 33	110
Bis(2-chloroethyl)ether			33 26	110
2-Chlorophenol	ND	•	13	56
1,3-Dichlorobenzene	ND			
1,4-Dichlorobenzene	ND		8.5	56
Benzyl alcohol	ND		33	110
1,2-Dichlorobenzene	ND		19	56
2-Methylphenol	ND	•	31	110
Bis(2-chloroisopropyl) ether	ND	•	38	170
3 & 4 Methylphenol	ND		59	220
N-Nitrosodi-n-propylamine	ND		29	110
Hexachloroethane	ND		23	110
Nitrobenzene	ND	/	17	110
Isophorone	ND	MAL	29	110
2-Nitrophenol	ND	-	26	110
2,4-Dimethylphenol	ND		21	110
Benzoic acid	ND		920	2800
Bis(2-chloroethoxy)methane	ND		28	110
2,4-Dichlorophenol	ND		21	110
1,2,4-Trichlorobenzene	ND		11	56 <b>V</b>
Naphthalene	410		6.3	22
4-Chloroaniline	ND		30	110 🗸
Hexachlorobutadiene	ND		14	56
4-Chioro-3-methylphenol	ND		24	110 🗸
2-Methylnaphthalene	2900		3.4	22
Hexachlorocyclopentadiene	ND		28	110 🕖
2,4,6-Trichlorophenol	ND		37	170
2,4,5-Trichlorophenol	ND		26	110
2-Chloronaphthalene	ND		2.1	22
2-Nitroaniline	ND		21	110
Dimethyl phthalate	ND		8.6	110
Acenaphthylene	ND		2.6	22
2,6-Dinitrotoluene	ND		21	110
3-Nitroaniline	ND		32	110
Acenaphthene	350		6.3	22
2,4-Dinitrophenol	ND	MAN	230	1100 V T
	ND	/ jn	290	1100
4-Nitrophenol	ND		19	110
Dibenzofuran	ND		16	110
2,4-Dinitrotoluene	ND		8.0	110
Diethyl phthalate	ND ND		18	110
4-Chlorophenyl phenyl ether	600 מא		2.9	22
Fluorene	UUU		۷.5	<sup>22</sup> []

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ND

Mh 5240

4-Nitroaniline

Job Number: 580-5689-1

Client Sample ID:

07040124

Lab Sample ID:

580-5689-15

Client Matrix:

Solid

% Moisture:

11.2

Date Sampled:

04/19/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Dilution:

8270C 3550B

Analysis Batch: 580-18161 Prep Batch: 580-17981

instrument ID:

SEA040

Lab File ID:

ak009367.D

Initial Weight/Volume:

20.2441 g

Final Weight/Volume:

2 mL

Date Analyzed:	05/02/2007	1833
Date Prenared:	04/24/2007	0833

Date Prepared:	04/24/2007	0833
Analyte	· · · · · · · · · · · · · · · · · · ·	Dry

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol		ND	79	300	1100 🗸
N-Nitrosodiphenylamine	•	ND		17	56
4-Bromophenyl phenyl ether		ND		11	110
Hexachlorobenzene		<sup>*</sup> ND		12	56
Pentachlorophenol		ND		34	110
Phenanthrene		960	•	4.4	22
Anthracene		120	•	4.8	22
Di-n-butyl phthalate		-120 Ma		14	220 <b>(</b> )
Fluoranthene		70	1110	3.4	22
Pyrene		140		3.0	22
Butyl benzyl phthalate		ND		32	110 📙
3,3'-Dichlorobenzidine	•	ND .		10	220 <b>U</b>
Benzo[a]anthracene		38		7.2	28
Chrysene	•	53		8.3	28
Bis(2-ethylhexyl) phthalate		ND		270	1700 🗸
Di-n-octyl phthalate		ND		37	220 <i>U</i>
Benzo[a]pyrene		37		9.5	33 17
Indeno[1,2,3-cd]pyrene		ND		13	44 1
Dibenz(a,h)anthracene		ND		13	44 <i>U</i>
Benzo[g,h,i]perylene		29		8.1	28
Carbazole		ND		37	170 ()
1-Methylnaphthalene		2200		9.7	33
Benzo[b]fluoranthene		30		6.0	22 Jan
Benzo[k]fluoranthene		ND		7.7	28 🖰
Surrogate		%Rec		Accep	tance Limits
2-Fluorophenol		39		36 -	
Phenol-d5		39		38 -	
Nitrobenzene-d5		111	•	38 -	
2-Fluorobiphenyl	÷	43		42 -	
2,4,6-Tribromophenol		192	X1 -	28 -	
Terphenyl-d14		51		42 -	151

Job Number: 580-5689-1

Client Sample ID:

07040125

Lab Sample ID:

580-5689-16

Client Matrix:

Solid

% Moisture:

8.5

Date Sampled:

04/19/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C 3550B Analysis Batch: 580-18161

Instrument ID:

SEA040

Preparation:

Prep Batch: 580-17981

Lab File ID:

ak009354.D

Dilution:

1.0

Initial Weight/Volume:

20.1410 g

Date Analyzed: Date Prepared: 05/02/2007 0105

Final Weight/Volume:

2 mL

04/24/2007 0833

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL,
Phenol		ND		2.9	11 [/
Bis(2-chloroethyl)ether		ND	-	3.3	11
2-Chlorophenol		ND .		2.5	11
1,3-Dichlorobenzene		ND		1.3	5.4
1,4-Dichlorobenzene		ND		0.82	5.4 \
Benzyl alcohol	1	ND .		3.3	11
1,2-Dichlorobenzene		ND		1.8	5.4
2-Methylphenol		ND		3.0	. 11
Bis(2-chloroisopropyl) ether		ND		3.7	16
3 & 4 Methylphenol		ND		5.8	22
N-Nitrosodi-n-propylamine		ND		2.8	11
Hexachloroethane	•	ND		2.3	11
Nitrobenzene		ND	1.	1.6	11
Isophorone		ND	MA	2.8	11
2-Nitrophenol		ND	r ·	2.5	11 🚺
2,4-Dimethylphenol		ND		2.1	11
Benzoic acid		ND :		90	270
Bis(2-chloroethoxy)methane		ND		2.7	11 /
2,4-Dichlorophenol		ND		2.1	11
1,2,4-Trichloropenzene		ND		1.1	5.4
Naphthalene	V.	15		0.62	2.2
4-Chioroaniline		ND ·		2.9	11 <i>O</i>
Hexachlorobutadiene		ND		1.4	5.4
4-Chloro-3-methylphenol		ND	•	2.4	11 🖤
2-Methylnaphthalene		110		0.34	2.2
Hexachlorocyclopentadiene		ND		2.7	11 4
2,4,6-Trichlorophenol		ND		3.6	16
2,4,5-Trichlorophenol		ND		2.5	11
2-Chloronaphthalene		ND		0.21	2.2
2-Nitroaniline		ND		2.1	11
Dimethyl phthalate		ND		0.84	11
Acenaphthylene		ND		0.25	2.2
2,6-Dinitrotoluene		ND	•	2.1	11, //
3-Nitroaniline		ND .		3.1	11 🌂
Acenaphthene	•	10		0.62	2.2
2,4-Dinitrophenol		ND	MIN	22	110 4 )
4-Nitrophenol		ND	× 1	28	110
Dibenzofuran		ND		1.8	11
2,4-Dinitrotoluene		ND		1.5	11
Diethyl phthalate		ND		0.78	11
4-Chlorophenyl phenyl ether		ND		1.7	11 🎶
Fluorene		21		0.28	2.2
4-Nitroaniline		5.4	J	2.1	11
				MA 900	4 )ILD

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/11/N5 407

STL Seattle

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040125

Lab Sample ID:

580-5689-16

Client Matrix:

Solid

% Moisture: 8.5

Date Sampled:

04/19/2007 0000

Date Received:

04/23/2007 1235

## 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation: 8270C

Analysis Batch: 580-18161

Instrument ID:

SEA040

3550B

Prep Batch: 580-17981

Lab File ID:

ak009354.D

20.1410 g

Dilution: Date Analyzed: 1.0

Initial Weight/Volume: Final Weight/Volume:

2 mL

Date Prepared:

05/02/2007 0105 04/24/2007 0833

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL 10	
4,6-Dinitro-2-methylphenol		ND ·		29	110 🗸	
N-Nitrosodiphenylamine		ND	•	1.6	5.4	
4-Bromophenyl phenyl ether		ND		1.1	· 11 \	
Hexachlorobenzene		ND		1.2	5.4	
Pentachlorophenol		ND		3.4	11 \Upsilon	
Phenanthrene		37		0.43	2.2	
Anthracene		3.7		0.47	2.2	
Di-n-butyl phthalate		-7-3 pm	-0 - S	1.4	22 <b>U</b>	
Fluoranthene		2.4	1000	0.34	2.2	
Pyrene		4.7		0.29	2.2	
Butyl benzyl phthalate		ND		3.1	11 U	
3,3'-Dichlorobenzidine		ND		0.99	22 <b>U</b>	
Benzo[a]anthracene		1.3	J	0.71	2.7	
Chrysene		1.7	J	0,81	2.7	
Bis(2-ethylhexyl) phthalate		ND		26	160 <b>V</b>	
Di-n-octyl phthalate		ND		3.6	22	
Benzo[a]pyrene		. ND		0.92	3.3	
Indeno[1,2,3-cd]pyrene		ND		1.3	4.3	
Dibenz(a,h)anthracene		ND		1.3	4.3	
Benzo[g,h,i]perylene		ND		0.79	2.7	
Carbazole		ND		3.6	16 <b>V</b>	
1-Methylnaphthalene		79		0.94	3.3	
Benzo[b]fiuoranthene		ND		0.59	2.2 4	
Benzo[k]fluoranthene		ND		0.75	2.7 <b>V</b>	
Surrogate		%Rec		Acceptance Limits		
2-Fluorophenol		51	36 - 145			
Phenol-d5		59	38 - 149 <sup>-</sup>			
Nitrobenzene-d5		52	- 38 <b>-</b> 141			
2-Fluorobiphenyl		59	42 - 140			
2,4,6-Tribromophenol		55	28 - 143			
Terphenyl-d14		84		42 -	151	

MWSHO

Job Number: 580-5689-1

Client Sample ID:

07040127

Lab Sample ID:

580-5689-17

Client Matrix:

Solid

% Moisture:

21.1

Date Sampled:

04/19/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C 3550B

Analysis Batch: 580-18161

Instrument ID:

SEA040 ak009369.D

Preparation: Dilution:

Prep Batch: 580-17981

Lab File ID: Initial Weight/Volume:

20.8760 g

Date Analyzed:

10

Final Weight/Volume:

2 mL

Date Prepared:

05/02/2007 1927 04/24/2007 0833

Injection Volume:

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Phenol		ND		33	120 🗸 🔾
Bis(2-chloroethyl)ether		ND		36	120
2-Chlorophenol		ND		28	120
1,3-Dichlorobenzene		ND		15	61
1,4-Dichlorobenzene		ND		9.2	. 61
Benzyl alcohol		ND		36	120
1,2-Dichlorobenzene		ND		21	61
2-Methylphenol		ND		34	120
Bis(2-chloroisopropyl) ether		ND		41	180
3 & 4 Methylphenol		ND		64	240
N-Nitrosodi-n-propylamine		ND		32	120
Hexachloroethane		ND		25	120
Nitrobenzene		ND		18	120
Isophorone		ND	Nm	32	120
2-Nitrophenol		ND		28	120
2,4-Dimethylphenol		ND		23	120
Benzoic acid		ND		1000	3000
Bis(2-chloroethoxy)methane	•	ND		30	120
2,4-Dichlorophenol		ND		23	120
1,2,4-Trichlorobenzene		ND		12	61
Naphthalene		2600		6.9	24
4-Chloroaniline	•	ND 3		33	. 120 ( ), )
Hexachlorobutadiene		ND	•	16	61
4-Chloro-3-methylphenol	•	ND		27	120
Hexachlorocyclopentadiene	/	ND		30	120
2,4,6-Trichlorophenol		ND		40	180
2,4,5-Trichlorophenol		ND		28	120
2-Chloronaphthalene	•	ND		2.3	24
2-Nitroaniline		ND		23	120
Dimethyl phthalate		ND		9.3	120
Acenaphthylene		ND		2.8	24
2,6-Dinitrotoluene		ND		23	120
3-Nitroaniline		ND		35	120
Acenaphthene		ND	,	6.9	24
2,4-Dinitrophenol		ND	MW.	250	1200 /
4-Nitrophenol		ND	/ '	320	1200
Dibenzofuran		ND		21	120
2,4-Dinitrotoluene		ND		. 17	120
Diethyl phthalate		ND .		8.7	120
4-Chlorophenyl phenyl ether		NĎ ,		19	120 V V
Fluorene		1400		3.2	24
4-Nitroaniline		ND		23	120 $\vee$ $\downarrow$
4,6-Dinitro-2-methylphenol		ND		330	1200 U
:1= m :::::= = :::=:::::::::::::::::::::					<b>3</b>

Page 39 of 1246

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040127

Lab Sample ID:

580-5689-17

Client Matrix:

Solid

% Moisture:

21.1

Date Sampled:

04/19/2007 0000

Date Received:

04/23/2007 1235

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18161

Instrument ID:

**SEA040** 

Preparation:

3550B

Lab File ID:

ak009369.D

Dilution:

Prep Batch: 580-17981

Initial Weight/Volume:

20.8760 g

Date Analyzed:

10

05/02/2007 1927

Final Weight/Volume: Injection Volume:

2 mL

Date Prepared:

04/24/2007 0833

N-Nitrosodiphenylamine         ND         18         61           4-Bromophenyl phenyl ether         ND         12         120           Hexachlorobenzene         ND         13         61           Pentachlorophenol         ND         38         120           Phenanthrene         4600         4.9         24           Anthracene         510         5.2         24           Anthracene         ND         16         240         24           Fluoranthene         520         3.8         24           Pyrene         770         3.3         24           Butyl benzyl phthalate         ND         35         120         11         240         24           3,3'-Dichlorobenzidine         ND         11         240         29         30         20         20         1800         30	Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL 10
4-Bromophenyl phenyl ether       ND       12       120         Hexachlorobenzene       ND       13       61         Pentachlorophenol       ND       38       120         Phenanthrene       4600       4.9       24         Anthracene       510       5.2       24         Di-n-butyl phthalate       ND       16       240         Fluoranthene       520       3.8       24         Pyrene       770       3.3       24         Butyl benzyl phthalate       ND       35       120         3,3'-Dichlorobenzidine       ND       11       240         Benzo[a]anthracene       130       7.9       30         Chrysene       180       9.1       30         Bis(2-ethylhexyl) phthalate       ND       290       1800         Di-n-octyl phthalate       ND       40       240	N-Nitrosodiphenylamine		ND		18	61 <b>V</b> J
Hexachlorobenzene			ND			120
Pentachlorophenol         ND         38         120 VV           Phenanthrene         4600         4.9         24           Anthracene         510         5.2         24           Di-n-butyl phthalate         ND         16         240 U           Fluoranthene         520         3.8         24           Pyrene         770         3.3         24           Butyl benzyl phthalate         ND         35         120 U           3,3'-Dichlorobenzidine         ND         11         240 U           Benzo[a]anthracene         130         7.9         30           Chrysene         180         9.1         30           Bis(2-ethylhexyl) phthalate         ND         290         1800 U           Di-n-octyl phthalate         ND         40         240 U			ND		13	61
Phenanthrene       4600       4.9       24         Anthracene       510       5.2       24         Di-n-butyl phthalate       ND       16       240 U U         Fluoranthene       520       3.8       24         Pyrene       770       3.3       24         Butyl benzyl phthalate       ND       35       120 U U         3,3'-Dichlorobenzidine       ND       11       240 U U         Benzo[a]anthracene       130       7.9       30         Chrysene       180       9.1       30         Bis(2-ethylhexyl) phthalate       ND       290       1800 U U         Di-n-octyl phthalate       ND       40       240 U U			ND 🚤		38	
Di-n-buty! phthalate			4600 🔾			
Fluoranthene 520 3.8 24  Pyrene 770 3.3 24  Butyl benzyl phthalate ND 35 120  3,3'-Dichlorobenzidine ND 11 240  Benzo[a]anthracene 130 7.9 30  Chrysene 180 9.1 30  Bis(2-ethylhexyl) phthalate ND 290 1800  Di-n-octyl phthalate ND 40 240	Anthracene		510 🍑	1		
Fluoranthene       520       3.8       24         Pyrene       770       3.3       24         Butyl benzyl phthalate       ND       35       120         3,3'-Dichlorobenzidine       ND       11       240         Benzo[a]anthracene       130       7.9       30         Chrysene       180       9.1       30         Bis(2-ethylhexyl) phthalate       ND       290       1800         Di-n-octyl phthalate       ND       40       240	Di-n-butyl phthalate		ND 🔾	Mu		
Pyrene         770 J         3.3         24           Butyl benzyl phthalate         ND         35         120 J           3,3'-Dichlorobenzidine         ND         11         240 J           Benzo[a]anthracene         130 J         7.9         30           Chrysene         180 J         9.1         30           Bis(2-ethylhexyl) phthalate         ND         290         1800 J           Di-n-octyl phthalate         ND         40         240 J			520 🕽		3.8	
Butyl benzyl phthalate       ND       35       120 U J         3,3'-Dichlorobenzidine       ND       11       240 U J         Benzo[a]anthracene       130       7.9       30         Chrysene       180       9.1       30         Bis(2-ethylhexyl) phthalate       ND       290       1800 U J         Di-n-octyl phthalate       ND       40       240 U J	•		770 🖒			
3,3'-Dichlorobenzidine       ND       11       240 U)         Benzo[a]anthracene       130       7.9       30         Chrysene       180       9.1       30         Bis(2-ethylhexyl) phthalate       ND       290       1800 U)         Di-n-octyl phthalate       ND       40       240 U)			ND			
Benzo[a]anthracene       130       7.9       30         Chrysene       180       9.1       30         Bis(2-ethylhexyl) phthalate       ND       290       1800         Di-n-octyl phthalate       ND       40       240						
Chrysene         180 )         9.1 30           Bis(2-ethylhexyl) phthalate         ND         290 1800 )           Di-n-octyl phthalate         ND         40 240 )		•	130 📆			
Bis(2-ethylhexyl) phthalate ND 290 1800 1800 1800 1800 1800 1800 1800 18			180 🐧			4-1
Di-n-octyl phthalate ND 40 240 <b>C</b>			ND _			
	Di-n-octyl phthalate					
Benzolalpyrene 62 T 10 36			62 J			
Indeno[1,2,3-cd]pyrene 43 <b>5</b> 49 49			43 🖒	-منافس		
Dihenz(a h)anthracene ND 15 49 U. J			ND	•		
Benzo[g,h,i]perylene 43 3 8.9 30						
Carbazole ND 40 180 U						
Benzo[b]fluoranthene 59 $\mathcal{J}$ 6.6 24	Benzo[b]fluoranthene			' /		
Benzo[k]fluoranthene 10 J 8.4 30	Benzo[k]fluoranthene		10 T	Char	8.4	30
Surrogate %Rec Acceptance Limits	Surrogate		%Rec	1810		
2-Fluorophenol 30 X I 36 - 145	2-Fluorophenol	į.	30	ΧI		
Phenol-d5 51 38 - 149			51		**	
	Nitrobenzene-d5				38 - 141	
2-Fluorobiphenyl 34 X I 42 - 140	2-Fluorobiphenyl		34			
2,4,6-Tribromophenol 215 X I 28 - 143				XΙ		
Terphenyl-d14 108 42 - 151			108		42 - 1	151

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040127

Lab Sample ID:

580-5689-17

05/02/2007 1900

04/24/2007 0833

Client Matrix:

Solid

% Moisture:

21.1

Date Sampled:

04/19/2007 0000

Date Received:

04/23/2007 1235

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8270C 3550B

100

Analysis Batch: 580-18161

Prep Batch: 580-17981

Instrument ID:

**SEA040** 

Lab File ID:

ak009368.D

Initial Weight/Volume:

20.8760 g

Final Weight/Volume:

2 mL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
2-Methylnaphthalene		9800 8300		38 110	240 360
1-Methylnaphthaiene		6300	1 1	110	300

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040129

Lab Sample ID:

580-5689-18

Client Matrix:

Solid

% Moisture:

12.3

Date Sampled:

04/19/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C 3550B Analysis Batch: 580-18161

Instrument ID:

**SEA040** ak009356.D

Preparation:

Prep Batch: 580-17981

Lab File ID: Initial Weight/Volume: Final Weight/Volume:

20.9925 g 2 mL

Dilution:

10

05/02/2007 0200

Date Analyzed: Date Prepared:

04/24/2007 0833

Injection Volume:

Result (ug/Kg) Qualifier MDL DryWt Corrected: Y Analyte 29 Phenol 33 110 ND Bis(2-chloroethyl)ether 25 2-Chlorophenol 54 13 1,3-Dichlorobenzene ND 8.3 54 ND 1,4-Dichlorobenzene 22 GH2 110 Benzyl alcohol ND 18 54 1,2-Dichlorobenzene 30 110 2-Methylphenol 37 160 ( ND Bis(2-chloroisopropyl) ether 3 & 4 Methylphenol ND 58 220 28 110 N-Nitrosodi-n-propylamine ND 23 110 ND Hexachloroethane 16 ND 110 Nitrobenzene /W 28 110 ND Isophorone 25 <del>G</del>IA 2-Nitrophenol 21 110 ( ND 2,4-Dimethylphenol 'ND 900 <del>2700</del> Benzoic acid 27 110 ( ND Bis(2-chloroethoxy)methane ND: 2,4-Dichlorophenol ND 11 54 1,2,4-Trichlorobenzene 6.2 22 Naphthalene 1000 110 ( 29 4-Chloroaniline ND ND 14 54 Hexachlorobutadiene 24 <del>110</del> 4-Chloro-3-methylphenol 3.4 22 2900 2-Methylnaphthalene 11012 27 Hexachlorocyclopentadiene ND 36 160 2,4,6-Trichlorophenol 25 'ND 110 2,4,5-Trichlorophenol 2.1 22 2-Chloronaphthalene ND 21 110 ND 2-Nitroaniline 8.4 110 ND Dimethyl phthalate 2.5 22 ND Acenaphthylene 21 110 ND 2,6-Dinitrotoluene 31 110 ND 3-Nitroaniline 6.2 22 620 Acenaphthene <del>Q</del>W 2202,4-Dinitrophenol 280 MĐ 4-Nitrophenol ND 18 110 Dibenzofuran 15 110 ND 2.4-Dinitrotoluene 7.8 110 Diethyl phthalate ND 17 110 4-Chlorophenyl phenyl ether ND 22 1700 2.8 Fluorene ND 4-Nitroaniline

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STL Seattle

Job Number: 580-5689-1

Client Sample ID:

07040129

Lab Sample ID:

580-5689-18

05/02/2007 0200

04/24/2007 0833

Client Matrix:

Solid

% Moisture:

12.3

Date Sampled:

04/19/2007 0000

Date Received:

04/23/2007 1235

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8270C 3550B

10

Analysis Batch: 580-18161

Instrument ID:

SEA040

Prep Batch: 580-17981

Lab File ID:

ak009356.D

Initial Weight/Volume:

20.9925 g

Final Weight/Volume:

2 mL

Injection Volume:

Analyte	DryWt Corrected: Y Result (ug/Kg)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	K-ND-		290	1100 W
N-Nitrosodiphenylamine	ND		16	54 🗸
4-Bromophenyl phenyl ether	ND		11	110
Hexachlorobenzene	Q ND		12	54 🔥
Pentachlorophenol	K-ND		34	
Phenanthrene	`2500		4.3	22
Anthracene	220	/	4.7	22
Di-n-butyl phthalate	ND	/w	14	220 U
Fluoranthene	340		3.4	22
Pyrene	430	·	2.9	22
Butyl benzyl phthalate	ND	•	31	110 0
3,3'-Dichlorobenzidine	ND		9.9	220 🔰
Benzo[a]anthracene	84		7.1	27
Chrysene	120		8.1	27
Bis(2-ethylhexyl) phthalate	ND	•	260	1600 🗸
Di-n-octyl phthalate	ND		36	220 <i>U</i>
Benzo[a]pyrene	44		9.2	33 (
Indeno[1,2,3-cd]pyrene	ND		13	43 🔰
Dibenz(a,h)anthracene	· ND		13	43 🕖
Benzo[g,h,i]perylene	37		7.9	27
Carbazole	ND		36	160 <i>( )</i>
1-Methylnaphthalene	2800		9.4	33
Benzo[b]fluoranthene	48		5.9	22
Benzo[k]fluoranthene	9.8	J	7.5	27
Surrogate	%Rec		Accep	tance Limits
2-Fluorophenol	9	ΧI	36 -	145
Phenol-d5	67		38 - 1	149
Nitrobenzene-d5	549	ΧI	38 -	141
2-Fluorobiphenyl	74		42 -	140
2,4,6-Tribromophenol	192	ΧI	28 -	143
Terphenyl-d14	109		42 -	151

( MW

Job Number: 580-5689-1

Client Sample ID:

07040132

Lab Sample ID:

580-5689-20

Client Matrix:

Water

Date Sampled:

04/20/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C 3510C Analysis Batch: 580-18102

Instrument ID: Lab File ID:

**SEA040** ak009208.D

Preparation:

Prep Batch: 580-18063

Dilution:

1.0

Initial Weight/Volume:

0.011

0.011

0.012

0.020

0.0091

0.012

0.0096

0.0013

0.018

0.015

0.013

0.011

0.0053

0.0096

0.0081

0.0029

0.011

0.011

0.0025

0.013

0.054

0.0011

0.056

0.15

0.0094

0.011

0.0089

0.011

0.017

0.0040

1045 mL

Date Analyzed: Date Prepared: 04/25/2007 2038

Final Weight/Volume: Injection Volume:

1 mL

RL

0.29

0.19

0.19

0.19

0.19

0.19

0.19

0.19

0.19

0.38

0.19

0.29

0.19

0.19

0.19

0.96

0.96

0.19

0.19

0.19

0.19

0.19

0.29

0.19

0.096

0.96

0.29

0.19

0.029

0.19

0.19

0.038

0.19

0.19

0.048

2.4

0.96

0.19

0.19

0.19

0.19

0.029

04/25/2007 1300

Result (ug/L) Qualifier MDL Analyte 0.0071 Pheno! ND ND 0.017 Bis(2-chloroethyl)ether 0.021

ND 2-Chlorophenol ND 1,3-Dichlorobenzene ND 1,4-Dichlorobenzene ND Benzyl alcohol ND 1,2-Dichlorobenzene

0.011 ND 0.036 2-Methylphenol ND 0.0084 Bis(2-chloroisopropyl) ether ND 0.016 3 & 4 Methylphenol ND 0.019 N-Nitrosodi-n-propylamine ND 0.012 Hexachloroethane ND 0.0072 Nitrobenzene Isophorone ND 0.011 2-Nitrophenol ND 0.020 0.017

ND 2,4-Dimethylphenol ND Benzoic acid ND Bis(2-chloroethoxy)methane 2,4-Dichlorophenol ND ND 1,2,4-Trichlorobenzene Naphthalene ND ND 4-Chloroaniline ND Hexachlorobutadiene ND

4-Chioro-3-methylphenol 2-Methylnaphthalene Hexachlorocyclopentadiene 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 2-Chloronaphthalene 2-Nitroaniline

Acenaphthylene 2,6-Dinitrotoluene 3-Nitroaniline Acenaphthene 2,4-Dinitrophenol 4-Nitrophenol

Dimethyl phthalate

2,4-Dinitrotoluene Diethyl phthalate 4-Chlorophenyl phenyl ether Fluorene

4-Nitroaniline

STL Seattle

Dibenzofuran

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ND

0.29

Job Number: 580-5689-1

Client Sample ID:

07040132

Lab Sample ID:

580-5689-20

Client Matrix:

Water

Date Sampled:

04/20/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Dilution:

8270C 3510C

1.0

Analysis Batch: 580-18102

Instrument ID:

SEA040

Prep Batch: 580-18063

Lab File ID:

ak009208.D

Initial Weight/Volume:

1045 mL

Final Weight/Volume:

1 mL

Injection Volume:

Date Analyzed:	04/25/
Date Prepared:	04/25/

04/25/2007 2038 04/25/2007 1300

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		0.051	1.9 🖊
N-Nitrosodiphenylamine	ND		0.012	0.19
4-Bromophenyl phenyl ether	ND		0.0096	0.19
Hexachlorobenzene	ND		0.0078	0.19
Pentachlorophenol	ND		0.012	0.33
Phenanthrene	ND		0.0023	0.038
Anthracene	ND	2 A	0.0018	0.019
Di-n-butyl phthalate	- <del>0:075</del>	<b>4</b> B	0.0084	0,19
Fluoranthene	ND -	1	0.0026	0.024
Pyrene	ND	11	0.0019	0.029
Butyl benzyl phthalate	-0.090 pm	46	0.023	0.29
3,3'-Dichlorobenzidine	ND	<b>,</b>	0.15	0.96
Benzo[a]anthracene	ND	1)	0.0032	0.029
Chrysene	ND	11	0.0043	0.019
Bis(2-ethylhexyl) phthalate	-0.19 The	JLB	0.031	1.4
Di-n-octyl phthalate	ND ND	AND W	0.017	0.19
Benzo[a]pyrene	ND		0.0026	0.019
Indeno[1,2,3-cd]pyrene	ND		0.0049	0.029
Dibenz(a,h)anthracene	ND		0.0044	0.029
Benzo[g,h,i]perylene	ND		0.0057	0.029
Carbazole	ND		0.0086	0.19
1-Methylnaphthalene	ND.		0.0050	0.029
Benzo[b]fluoranthene	ND		0.0044	0.038
Benzo[k]fluoranthene	ND		0.0053	0.029
Surrogate	%Rec			ince Limits
2-Fluorophenol	29		10 - 12	
Phenoi-d5	18		10 - 10	
Nitrobenzene-d5	78		34 - 14	• =
2-Fluorobiphenyl	70		35 - 14	
2,4,6-Tribromophenol	67	•	29 - 15	
Terphenyl-d14	82		35 - 16	56

Job Number: 580-5689-1

Client Sample ID:

07040133

Lab Sample ID:

580-5689-21

Client Matrix:

Water

Date Sampled:

04/20/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Client: Ecology and Environment, Inc.

Analysis Batch: 580-18102

Instrument ID:

SEA040

Preparation:

3510C

Lab File ID:

ak009209.D

Dilution:

Prep Batch: 580-18063

1.0

Initial Weight/Volume:

1040 mL

Date Analyzed:

04/25/2007 2106

Final Weight/Volume:

1 mL

Date Prepared:

04/25/2007 1300

Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL , 1
Phenol	ND		0.0071	0.29
Bis(2-chloroethyl)ether	ND		0.017	0.19
2-Chlorophenol	ND	•	0.021	0.19
1,3-Dichlorobenzene	ND		0.011	0.19
1,4-Dichlorobenzene	ND ·		0.012	0.19
Benzyl aicohol	ND		0.013	0.19
1,2-Dichlorobenzene	ND .		0.011	0.19
2-Methylphenol	ND		0.037	0.19
Bis(2-chloroisopropyl) ether	ND		0.0085	0.19
3 & 4 Methylphenol	ND		0.016	0.38
N-Nitresodi-n-propylamine	ND		0.019	0.19
Hexachloroethane	ND		0.013	0.29
Nitrobenzene	ND		0.0072	0.19
Isophorone	. ND	1	0.011	0.19
2-Nitrophenol	ND		0.020	0.19
2,4-Dimethylphenol	ND		0.017	0.96
Benzoic acid	ND		0.020	0.96
Bis(2-chloroethoxy)methane	ND		0.0091	0.19
2,4-Dichlorophenol	ND		0.013	0.19
1,2,4-Trichlorobenzene	ND		0.0096	0.19
Naphthalene	ND		0.0013	0.19
4-Chloroaniline	ND		0.018	0.19
Hexachlorobutadiene	ND		0.015	0.29
4-Chloro-3-methylphenol	ND		0.013	0.19
2-Methylnaphthalene	0.014	J	0.0053	0.096
Hexachlorocyclopentadiene	ND	_	0.012	0.96
2,4,6-Trichlorophenol	ND		0.0096	0.29
2,4,5-Trichlorophenol	ND		0.0082	0.19
2-Chloronaphthalene	ND		0.0029	0.029
2-Nitroaniline	ND		0.011	0.19
Dimethyl phthalate	ND		0.012	0.19
Acenaphthylene	ND		0.0025	0.038
2,6-Dinitrotoluene	ND		0.013	0.19
3-Nitroaniline	ND		0.054	0.19 🗸
Acenaphthene	0.025	J ·	0.0012	0.048.
2,4-Dinitrophenol	ND	-	0.056	2.4
4-Nitrophenol	ND		0.15	0.96
Dibenzofuran	ND		0.0094	0.19
2,4-Dinitrotoluene	ND		0.012	0.19
2,4-Dinitroloidene Diethy! phthalate	0.011	J	0.0089	0.19
4-Chlorophenyl phenyl ether	ND	-	0.012	0.19 ()
	0.047		0.0040	0.029
Fluorene	ND		0.017	0.29 V
4-Nitroaniline	ND		Λ.Ο.Ι.	3.20

Page 46 of 1246

MW 52405

Job Number: 580-5689-1 Client: Ecology and Environment, Inc.

Client Sample ID:

07040133

Lab Sample ID:

580-5689-21

Client Matrix:

Water

Date Sampled:

04/20/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C 3510C Analysis Batch: 580-18102

Instrument ID:

**SEA040** 

Preparation:

Lab File ID:

ak009209.D

Dilution:

1.0

Prep Batch: 580-18063

Initial Weight/Volume: Final Weight/Volume:

1040 mL 1 mL

Date Analyzed: Date Prepared: 04/25/2007 2106 04/25/2007 1300

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		0.051	1.9 <i>Q</i>
N-Nitrosodiphenylamine	ND		0.013	0.19
4-Bromophenyl phenyl ether	ND		0.0096	0.19
Hexachlorobenzene	ND		0.0079	0.19
Pentachlorophenol	ND		0.013	0.34 <b>Y</b>
Phenanthrene	0.12		0.0023	0.038
Anthracene	0.0088	Jį	0.0018	0.019
Di-n-butyl phthalate	<del>-0:085 <b>√</b>∿</del>	-J-BMM	0.0085	0.19 🕖
Fluoranthene	0.0095	J 🖍 🎽	0.0026	0.024
Pyrene	0.025	J (	0.0019	0.029
Butyl benzyl phthalate	<del>-0:096-₩</del> √	-J- <b>₽</b> ₩	0.023	0.29 (),
3,3'-Dichlorobenzidine	ND '	Y	0.15	0.96
Benzo[a]anthracene	ND		0.0032	0.029
Chrysene .	ND		0.0043	0.019
Bis(2-ethylhexyl) phthalate	-0-17 m	• <del>3 t</del>	0.031	1.4 $V_{\alpha}$
Di-n-octyl phthalate	ND	~ Thu	0.017	0.19 🗸
Benzo[a]pyrene	ND	-	0.0026	0.019
Indeno[1,2,3-cd]pyrene	ND		0.0049	0.029
Dibenz(a,h)anthracene	ND	•	0.0044	0.029
Benzo[g,h,i]perylene	ND		0.0058	0.029
Carbazole	ND		0.0087	0.19 🗸
1-Methylnaphthalene	0.041		0.0050	0.029
Benzo[b]fluoranthene	ND		0.0044	0.038 💢
Benzo[k]fluoranthene	ND	•	0.0053	0.029 🔰
Surrogate	%Rec	Acceptance Limits		
2-Fluorophenol	28		10 - 12	20
Phenol-d5	17		10 - 10	)2
Nitrobenzene-d5	72	34 - 146		
2-Fluorobiphenyl	64		35 - 14	13
2,4,6-Tribromophenol	66		29 - 1	51 .
Terphenyi-d14	80		35 - 16	66

Job Number: 580-5689-1

Client Sample ID:

07040134

Lab Sample ID:

580-5689-22

Client Matrix:

Water

Date Sampled:

04/20/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18102

Instrument ID:

**SEA040** ak009210.D

Preparation:

3510C

Prep Batch: 580-18063

Lab File ID:

Dilution:

1.0

initial Weight/Volume:

1050 mL 1 mL

Date Analyzed: Date Prepared:

04/25/2007 2133 04/25/2007 1300 Final Weight/Volume: Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL , o
Phenol	ND		0.0070	0.29
Bis(2-chloroethyl)ether	· ND		0.017	0.19
2-Chlorophenol	ND		0.021	0.19
1,3-Dichlorobenzene	ND		0.010	0.19 🗸
1,4-Dichlorobenzene	ND		0.011	0.19 `
Benzyl alcohol	0.013	J	0.012	0.19 ,
1,2-Dichlorobenzene	ND		0.010	0.19 🗸
2-Methylphenol	ND		0.036	0.19
Bis(2-chloroisopropyl) ether	ND		0.0084	0.19
3 & 4 Methylphenol	ND		0.016	0.38
N-Nitrosodi-n-propylamine	ND		0.019	0.19
Hexachioroethane	ND		0.012	0.29 \
Nitrobenzene	ND		0.0071	0.19
Isophorone	ND		0.010	0.19
2-Nitrophenol	ND		0.020	0.19
2,4-Dimethylphenol	ND		0.017	0.95
Benzoic acid	ND		0.020	0.95
Bis(2-chloroethoxy)methane	ND	•	0.0090	0.19
2,4-Dichlorophenol	ND		0.012	0.19
1,2,4-Trichlorobenzene	ND		0.0095	0.19
Naphthalene	0.032	J	0.0013	0.19
4-Chioroaniline	ND		0,018	0.19
Hexachlorobutadiene	ND .		0.015	0.29
4-Chloro-3-methylphenol	ND		0.013	0.19 🗸
2-Methylnaphthalene	0.11		0.0052	0.095
Hexachlorocyclopentadiene	ND		0.011	0.95 🗘
2,4,6-Trichlorophenol	ДИ		0.0095	0.29
2,4,5-Trichlorophenol	ND		0.0081	0.19
2-Chloronaphthalene	ND		0.0029	0.029
2-Nitroaniline	ND		0.010	0.19
Dimethyl phthalate	ND		0.011	0.19
Acenaphthylene	ND		0.0025	0.038
2,6-Dinitrotoluene	ND .		0.013	0.19
3-Nitroaniline	ND		0.053	0.19
Acenaphthene	0.084		0.0011	0.048
2,4-Dinitrophenol	ND		0.055	2.4
4-Nitrophenol	ND		0.15	0.95
Dibenzofuran	ND		0.0093	0.19
2,4-Dinitrotoluene	ND		0.011	0.19
Diethyl phthalate	ND		0.0089	0.19
4-Chlorophenyl phenyl ether	ND		0.011	0.19 🗸
Fluorene	0.20		0.0040	0.029
4-Nitroaniline	ND	•	0.017	0.29 V

Page 48 of 1246

Job Number: 580-5689-1

Client Sample ID:

07040134

Lab Sample ID:

580-5689-22

Client Matrix:

Water

Date Sampled:

04/20/2007 0000

Date Received:

04/23/2007 1235

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18102

Instrument ID:

**SEA040** 

Preparation:

3510C

Lab File ID:

ak009210.D

Dilution:

1.0

Prep Batch: 580-18063

Initial Weight/Volume:

1050 mL 1 mL

Date Analyzed: Date Prepared:

04/25/2007 2133

04/25/2007 1300

Final Weight/Volume: Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		0.050	1.9 🗸
N-Nitrosodiphenylamine	ND		0.012	0.19
4-Bromophenyl phenyl ether	ND		0.0095	0.19
Hexachlorobenzene	ND ·		0.0078	0.19
Pentachlorophenol	ND		0.012	0.33
Phenanthrene	0.21		0.0023	0.038
Anthracene	0.015	J.	0.0018	0.019
Di-n-butyl phthalate	0.078	—— <del>JE</del> M	0.0084	0.19 <b>U</b>
Fluoranthene	0.013	J	0.0026	0.024
Pyrene	0.046	1	0.0019	0.029
Butyl benzyl phthalate	0.095	<del></del>	0.023	-0.29 <b>()</b> ,
3,3'-Dichlorobenzidine	ND	. [	0.15	0.95 🗸
Benzo[a]anthracene	. 0.011	J	0.0031	0.029
Chrysene	0.016	J	0.0043	0.019
Bis(2-ethylhexyl) phthalate	. <del>0.42</del>	J#W	0.030	1.4 U
Di-n-octyl phthalate	0.073	J <b>1</b>	0.017	0.19
Benzo[a]pyrene	0.027	Asso	0.0026	0.019
Indeno[1,2,3-cd]pyrene	ND		0.0049	0.029 <b>(</b> )
Dibenz(a,h)anthracene	ND	•	0.0044	0.029
Benzo[g,h,i]perylene	ND		0.0057	0.029
Carbazole	ND	,	0.0086	0.19
1-Methylnaphthalene	0.34		0.0050	0.029
Benzo[b]fluoranthene	0.023	J	0.0044	0.038
Benzo[k]fluoranthene	ND		0.0052	0.029 🔰
Surrogate	%Rec		Accepta	ince Limits
2-Fluorophenol	29		10 - 12	20
Phenol-d5	18		10 - 10	02
Nitrobenzene-d5	76		34 - 14	16
2-Fluorobiphenyl	<b>6</b> 5		35 - 14	43
2,4,6-Tribromophenol	68		29 - 1	
Terphenyl-d14	76		35 - 16	36
a arterior A :			$\sim$	

Job Number: 580-5689-1

Client Sample ID:

07040135

Lab Sample ID:

580-5689-23

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18102

Instrument ID:

**SEA040** 

3510C Preparation:

Lab File ID:

ak009211.D

1.0 Dilution:

Prep Batch: 580-18063

Initial Weight/Volume:

995 mL 1 mL

Date Analyzed: Date Prepared:

STL Seattle

04/25/2007 2201 04/25/2007 1300 Final Weight/Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL ,	
Phenol	ND		0.0074	0.30 🗸	
Bis(2-chloroethyl)ether	ND		0.018	0.20	
2-Chlorophenol	ND		0.022	0.20	
1,3-Dichlorobenzene	ND		0.011	0.20	
1,4-Dichlorobenzene	ND .		0.012	0.20	
Benzyl alcohol	ND		0.013	0.20	
1,2-Dichlorobenzene	ND		0.011	0.20	
2-Methylphenol	ND		0.038	0.20	
Bis(2-chloroisopropyl) ether	ND	•	0.0088	0.20	
3 & 4 Methylphenol	ND		0.017	0.40	
N-Nitrosodi-n-propylamine	ND		0.020	0.20	
Hexachloroethane	ND		0.013	0.30	
Nitrobenzene	ND		0.0075	0.20	
Isophorone	ND		0.011	0.20	
2-Nitrophenol	ND		0.021	0.20	
2,4-Dimethylphenol	ND	•	0.018	1.0	
Benzoic acid	ND		0.021	1.0	
Bis(2-chloroethoxy)methane	. ND		0.0095	0.20	
2,4-Dichlorophenol	ND		0.013	0.20	
1,2,4-Trichlorobenzene	ND		0.010	0.20	
Naphthalene	0.010	J	0.0014	0.20	
4-Chloroaniline	ND		0.019	0.20	
Hexachlorobutadiene	ND		0.016	0.30	
4-Chloro-3-methylphenol	ND	_	0.014	0.20	
2-Methylnaphthalene	0.0095	J	0.0055	0.10 1.0	
Hexachlorocyclopentadiene	ND		0.012		
2,4,6-Trichlorophenol	ND		0.010	0.30	
2,4,5-Trichlorophenol	ND		0.0085	0.20	
2-Chloronaphthalene	ND		0.0030	0.030	
2-Nitroaniline	ND		0.011	0.20	
Dimethyl phthalate	ND		0.012	0.20	
Acenaphthylene	ND		0.0026	0.040	
2,6-Dinitrotoluene	ND		0.014	0.20	
3-Nitroaniline	ND	,	0.056	0.20 \Upsilon	
Acenaphthene	0.015	J	0.0012	0.050	
2,4-Dinitrophenol	ND ND		0.058	2.5	
4-Nitrophenol	K-NB-		<del>0.10</del> 0.0098	1.0	
Dibenzofuran	ND			0.20	
2,4-Dinitrotoluene	ND ND		0.012	0.20	
Diethyl phthalate	0.014	J	0.0093	0.20	
4-Chiorophenyl phenyl ether	ND	,	0.012	0.20 <b>U</b>	
Fluorene	0.0068	J	0.0042	0.030	
4-Nitroaniline	ND		0.018	0.30 🗸	
STL Seattle	Page 50 of 1	246	Mos	407	

Job Number: 580-5689-1

Client Sample ID:

07040135

Lab Sample ID:

580-5689-23

04/25/2007 2201

04/25/2007 1300

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8270C

Analysis Batch: 580-18102 Prep Batch: 580-18063 Instrument ID:

SEA040

3510C Prep Ba 1.0 Lab File ID:

ak009211.D

Initial Weight/Volume:

995 mL

Final Weight/Volume:

1 mL

Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND		0.053	2.0 🗸
N-Nitrosodiphenylamine	ND		0.013	0.20
4-Bromophenyi phenyl ether	ND		0.010	0.20
Hexachlorobenzene	ND		0.0082	0.20
Pentachlorophenol	ND		0.013	0.35
Phenanthrene	0.0046	J	0.0024	0.040
Anthracene	ND		0.0019	0.020
Di-n-butyl phthalate	· <del>0:084</del>		0.0088	0.20 <b>U</b>
Fluoranthene	0.0097	<b>ງ</b> ໍ້	0.0027	0.025
Pyrene	0.015	J	0.0020	0.030
Butyl benzyl phthalate	<del>-0.10</del>		0.024	0.30
3,3'-Dichlorobenzidine	ND	-/ p·	0.16	1.0
Benzo[a]anthracene	ND		0.0033	0.030
Chrysene	ND	/	0.0045	0.020
Di-n-octyl phthalate	ND	/W/	0.018	0.20
Benzo[a]pyrene	ND		0.0027	0.020
Indeno[1,2,3-cd]pyrene	ND		0.0051	0.030
Dibenz(a,h)anthracene	ND		0.0046	0.030
Benzo[g,h,i]perylene	ND		0.0060	0.030
Carbazole	ND		0.0090	0.20 <b>V</b>
1-Methylnaphthalene	0.0081	J	0.0052	0.030
Benzo[b]fluoranthene	ND		0.0046	0.040 🕖
Benzo[k]fluoranthene	ND	·	0.0055	0.030 🕡
Surrogate	%Rec		Acceptance Limits	
2-Fluorophenol	27		10 - 12	10
Phenol-d5	18		10 - 10	)2
Nitrobenzene-d5	75	•	34 - 14	-6
2-Fluorobiphenyl	64		35 - 14	3
2,4,6-Tribromophenol	67		29 - 15	51
Terphenyl-d14	74		35 - 16	

MW

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040135

Lab Sample ID:

580-5689-23

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

Analyte

8270C

Analysis Batch: 580-18102

Instrument ID:

**SEA040** 

Preparation: 3510C Dilution:

Prep Batch: 580-18063

Lab File ID:

ak009225.D

.10

995 mL

Date Analyzed: Date Prepared: 04/26/2007 1607

Initial Weight/Volume:

1 mL

Final Weight/Volume: Injection Volume:

04/25/2007 1300

Result (ug/L)

MDL

RL

Bis(2-ethylhexyl) phthalate

16

0.32

15

CONFOT

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040136

Lab Sample ID:

580-5689-24

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

3510C

Analysis Batch: 580-18102

Instrument ID:

SEA040

Preparation:

Prep Batch: 580-18063

Lab File ID:

ak009228.D

Dilution:

Initial Weight/Volume:

1020 mL

1.0

Final Weight/Volume:

1 mL

Date Analyzed: Date Prepared: 04/26/2007 1730 04/25/2007 1300

Analyte	Result (ug/L)	Qualifier	MDL	RL , o
Phenol	KND		0.0073	0.29
Bis(2-chloroethyl)ether	ND ND		0.018	0.20
2-Chlorophenol	KND	CONTROL OF THE PROPERTY OF THE		-0.20 M
1,3-Dichlorobenzene	ND		0.011	0.20
1,4-Dichlorobenzene	∧ ND		0.012	0.20
Benzyl alcohol	K-ND		0.043	0.20 M
1,2-Dichlorobenzene	ND		0.011	0.20
2-Methylphenol	KND		0.037	0.20 A
Bis(2-chloroisopropyl) ether	ND ND		0.0086	0.20
3 & 4 Methylphenol	V		0.017	0.39
N-Nitrosodi-n-propylamine	ND		0.020	0.20
Hexachloroethane	ND		0.013	0.29
Nitrobenzene	ND		0.0074	0.20
Isophorone	∧ ND		0.011	0.20
2-Nitrophenol	P-ND		0.021	0.20
2,4-Dimethylphenol	ND		0.018	0.98
Benzoic acid	D-ND		0.021	0.98 W
Bis(2-chloroethoxy)methane	ND		0.0093	0.20
2,4-Dichlorophenol	V-ND		0.013	0.20
1,2,4-Trichlorobenzene	ND		0.0098	0.20
4-Chloroaniline	ND		0.019	0.20
Hexachlorobutadiene	∧ ND		0.016	0.29
4-Chloro-3-methylphenol	R.MD		0.010	0.20
2-Methylnaphthalene	4.7		0.0054	0.098
Hexachlorocyclopentadiene	, ND		0.012	0.98
2,4,6-Trichlorophenol	RND		0.0098	0.29
2,4,5-Trichlorophenol	CND	Management of the Control of the Con	0.0030	0.29 7
2-Chloronaphthalene	ND	A CONTRACTOR OF THE PARTY OF TH	0.0029	0.029
2-Nitroaniline	ND		0.011	0.29
	ND		0.011	0.20
Dimethyl phthalate	ND		0.0025	0.039
Acenaphthylene	ND		0.0023	0.039
2,6-Dinitrotoluene	ND		0.055	
3-Nitroaniline				0.20
Acenaphthene	0 2.4		0.0012	0.049
2,4-Dinitrophenol	S ND		0.40	2.5
4-Nitrophenol	K. ND		0.16	0.98
Dibenzofuran	ND		0.0096	0.20
2,4-Dinitrotoluene	ND		0.012	0.20
Diethyl phthalate	ND		0.0091	0.20
4-Chlorophenyl phenyl ether	ND		0.012	0.20
Fluorene	2.1		0.0041	0.029
4-Nitroaniline	O ND		0.018	0.29
4,6-Dinitro-2-methylphenol	K ND	7	0.052	2.0
STL Seattle	Page 53 of 12	246	MW52	40

Job Number: 580-5689-1

Client Sample ID:

07040136

Lab Sample ID:

580-5689-24

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Client: Ecology and Environment, Inc.

Analysis Batch: 580-18102

Instrument ID:

SEA040

Preparation:

3510C

Lab File ID:

ak009228.D

Dilution:

1.0

Prep Batch: 580-18063

1020 mL Initial Weight/Volume:

Date Analyzed:

04/26/2007 1730

Final Weight/Volume:

1 mL

Date Prepared:

04/25/2007 1300

Analyte	Result (ug/L)	Qualifier	MDL	RL
N-Nitrosodiphenylamine	ND		0.013	0.20
4-Bromophenyl phenyl ether	ND		0.0098	0.20
Hexachlorobenzene	o ND		0.0080	0.20
Pentachlorophenol	L ND.		0.013	0.34 <b>\</b>
Phenanthrene	4.0		0.0024	0.039
Anthracene	0.73		0.0019	0.020
Di-n-butyl phthalate	ND		0.0086	0.20
Fluoranthene	0.26		0.0026	0.025
Pyrene	1.2		0.0020	0.029
Butyl benzyl phthalate	ND	•	0.024	0.29 🗸
3,3'-Dichlorobenzidine	ND		0.16	0.98 ()
Benzo[a]anthracene	0.37		0.0032	0.029
Chrysene	0.51		0.0044	0.020
Bis(2-ethylhexyl) phthalate	<del>-0:27</del> ⊷	<b>₩</b> ,	0.031	1.5 ( <i>)</i> ,
Di-n-octyl phthalate	ND		0.018	0.20
Benzo[a]pyrene	0.20	• •	0.0026	0.020
Indeno[1,2,3-cd]pyrene	ND		0.0050	0.029 🗸
Dibenz(a,h)anthracene	ND		0.0045	0.029 🗸
Benzo[g,h,i]perylene	0.11		0.0059	0.029
Carbazole	0.48		0.0088	0.20
Benzo[b]fluoranthene	0.12		0.0045	0.039
Benzo[k]fluoranthene	0.021	J	0.0054	0.029
Surrogate	%Rec		Accepta	ance Limits
2-Fluorophenol	27		10 - 13	
Phenol-d5	9	ΧI	10 - 10	02
Nitrobenzene-d5	· 116		34 - 14	
2-Fluorobiphenyl	57		35 - 1	43
2,4,6-Tribromophenol	71		29 - 1	51
Terphenyl-d14	80		35 - 1	66

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040136

Lab Sample ID:

580-5689-24

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

Analyte

8270C

Analysis Batch: 580-18102

Instrument ID:

**SEA040** 

Preparation:

3510C

Prep Batch: 580-18063

Lab File ID:

ak009227.D

10 Dilution:

Initial Weight/Volume:

1020 mL

Date Analyzed:

04/26/2007 1702

Final Weight/Volume: Injection Volume:

1 mL

Date Prepared:

04/25/2007 1300

Qualifier	MDL	RL

Naphthalene 1-Methylnaphthalene

5.0 20

Result (ug/L)

0.014 0.051 2.0 0.29

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040137

Lab Sample ID:

580-5689-25

Client Matrix:

Water

Date Sampled: Date Received:

04/21/2007 0000 04/23/2007 1235

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation: 8270C

Analysis Batch: 580-18102 Prep Batch: 580-18063

Instrument ID:

3510C

Lab File ID:

ak009335.D Initial Weight/Volume:

Dilution: Date Analyzed: 1.0

05/01/2007 1638

Final Weight/Volume:

Injection Volume:

985 mL 1 mL

Date Prepared:

**STL Seattle** 

04/25/2007 1300

Analyte	Result (ug/L)	Qualifier	MDL	RL .
Phenol	RAD		0.0075	- 0.30 VW.
3is(2-chloroethyl)ether	0.028	J	0.018	0.20
-Chlorophenol	KND		0.022	-0.20 J/M
,3-Dichlorobenzene	, ND		0.011	0.20
,4-Dichlorobenzene	∧ ND		0.012	0.20
senzyl alcohol	K ND		0.013	0.20 W
,2-Dichlorobenzene	0.037	J	0.011	0.20
-Methylphenol	P ND		0.039	0.20 M
sis(2-chloroisopropyl) ether	ND		0.0089	0.20 1
& 4 Methylphenol	( ND	AND DESCRIPTION OF THE PROPERTY OF THE PROPERT	0.017	0.41 M
N-Nitrosodi-n-propylamine	ND		0.020	0.20
lexachloroethane	ND		0.013	0.30
litrobenzene	ND		0.0076	0.20
sophorone	- ND		0.011	0.20
-Nitrophenol	Q ND		0.021	0.20 - M
,4-Dimethylphenol	ND ND		0.018	1.0 IN
Benzoic acid	P ND	The second secon	0.021	-1.0 -1m
Bis(2-chloroethoxy)methane	ND		0.0096	0.20
.4-Dichlorophenol	RND		0.043	<del>0.20</del> W.
,2,4-Trichlorobenzene	ND		0.010	0.20
laphthalene	ND		0.0014	0.20
-Chloroaniline	ND		0.019	0.20
lexachlorobutadiene	o ND		0.016	0.30
-Chloro-3-methylphenol	RND		0.014	0.20 M
2-Methylnaphthalene	ND		0.0056	0.10
lexachlorocyclopentadiene	A ND		0.012	1.0
2,4,6-Trichlorophenol	KND		0.012	0.30 M
2,4,5-Trichlorophenol	ND D		0.0086	0.20 h
2-Chloronaphthalene	ND		0.0030	0.030
-Nitroaniline	ND		0.011	0.20
Dimethyl phthalate	ND		0.012	0.20
acenaphthylene	ND ND		0.0026	0.041
,6-Dinitrotoluene	ND		0.014	0.20
-Nitroaniline	ND		0.014	0.20
cenaphthene	0.11	ψl.	0.0012	0.051
,4-Dinitrophenol	RAD		0.059	2.5 m
-Nitrophenol	N		0.059	1.0 m
-Nitrophenol Dibenzofuran	ND		0.0099	0.20
	ND		0.012	0.20
,4-Dinitrotoluene	ND ND		0.0094	0.20
Diethyl phthalate	ND		0.0094	0.20
-Chlorophenyl phenyl ether			0.012	
Fluorene	0.14 ND			0.030
I-Nitroaniline	ND		0.018	0.30

Page 56 of 1246

Job Number: 580-5689-1

Client Sample ID:

07040137

Lab Sample ID:

580-5689-25

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

Date Prepared:

8270C

Analysis Batch: 580-18102

Instrument ID:

SEA040

Preparation:

3510C

Prep Batch: 580-18063

Lab File ID:

ak009335.D

Dilution:

1.0

Initial Weight/Volume:

985 mL

Date Analyzed: 05/01/2007 1638

04/25/2007 1300

Final Weight/Volume:

1 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	√ <del>ND</del> ——		0.054	
N-Nitrosodiphenylamine	' `ND		0.013	0.20
4-Bromophenyl phenyl ether	ND		0.010	0.20
Hexachlorobenzene	√ ND		0.0083	0.20
Pentachlorophenol	K-44D		<del>0:013</del>	0-36 Yeu
Phenanthrene	0.021	J	0.0024	0.041
Anthracene	0.012	J	0.0019	0.020
Di-n-butyl phthalate	<del>-0:078</del>		0.0089	0.20 ህ
Fluoranthene	ND	,	0.0027	0.025 <b>D</b>
Pyrene	ND	/	0.0020	o.o3o <b>, U</b> ,
Butyl benzyl phthalate	0.23	J-FWW	0.024	0.30 🕖
3,3'-Dichlorobenzidine	· ND	, ,	0.16	1.0 🕖
Benzo[a]anthracene	ND		0.0034	0.030
Chrysene	ND		0.0046	0.020
Di-n-octyl phthalate	ND	MW	0.018	0.20
Benzo[a]pyrene	ND		0.0027	0.020
Indeno[1,2,3-cd]pyrene	ND		0.0052	0.030
Dibenz(a,h)anthracene	ND		0.0047	0.030
Benzo[g,h,i]perylene	ND		0.0061	0.030
Carbazole	ND		0.0091	0.20
1-Methylnaphthalene	ND		0.0053	0.030
Benzo[b]fluoranthene	ND		0.0047	0.041
Benzo[k]fluoranthene	ND		0.0056	0.030 🗸
Surrogate	%Rec		Acceptano	e Limits
2-Fluorophenol	0 .	ΧI	10 - 120	
Phenol-d5	7	ΧI	10 - 102	
Nitrobenzene-d5	72		34 - 146	
2-Fluorobiphenyl	68		35 - 143	
2,4,6-Tribromophenol	69	•	29 - 151	•
Terphenyl-d14	67		35 - 166	

Job Number: 580-5689-1

Client Sample ID:

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Client: Ecology and Environment, Inc.

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07040137

Lab Sample ID:

580-5689-25

04/27/2007 1036

04/25/2007 1300

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18102

Instrument ID:

SEA040

Preparation: 3510C

Dilution: Date Analyzed:

Date Prepared:

50

Prep Batch: 580-18063

Lab File ID:

ak009248.D

Initial Weight/Volume:

985 mL

Final Weight/Volume:

1 mL

Injection Volume:

 Analyte
 Result (ug/L)
 Qyalifier
 MDL
 RL

 Bis(2-ethylhexyl) phthalate
 120
 MV
 1.6
 76

5 Ufor

Job Number: 580-5689-1

Client Sample ID:

07040138

Lab Sample ID:

580-5689-26

04/26/2007 1852

04/25/2007 1300

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Prep Batch: 580-18063

Method: Preparation:

Date Analyzed: Date Prepared:

Dilution:

8270C 3510C

1.0

Analysis Batch: 580-18102

Instrument ID:

**SEA040** 

Lab File ID:

ak009231.D

Initial Weight/Volume:

970 mL

Final Weight/Volume:

1 mL

njection Volume:	ne:	Vol	iection	ni
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Analyte	Result (ug/L)	Qualifier	MDL	RL , ,
Phenol	ND		0.0076	0.31 🗸
Bis(2-chloroethyl)ether	ND		0.019	0.21
2-Chlorophenol	ND	•	0.023	0.21
1,3-Dichlorobenzene	ND		0.011	0.21
1.4-Dichlorobenzene	ND		0.012	0.21
Benzyl alcohol	ND		0.013	0.21
1,2-Dichlorobenzene	ND		0.011	0.21
2-Methylphenol	ND		0.039	0.21
Bis(2-chloroisopropyl) ether	ND		0.0091	0.21
3 & 4 Methylphenol	ND		0.018	0.41
N-Nitrosodi-n-propylamine	ND		0.021	0.21
Hexachloroethane	ND	•	0.013	0.31
Nitrobenzene	ND		0.0077	0.21
Isophorone	ND		0.011	0.21
2-Nitrophenol	ND		0.022	0.21
2,4-Dimethylphenol	ND		0.019	1.0
Benzoic acid	ND		0.022	1.0
Bis(2-chloroethoxy)methane	ND		0.0098	0.21
2,4-Dichlorophenol	ND		0.013	0.21
1,2,4-Trichlorobenzene	ND		0.010	0.21
Naphthalene	ND		0.0014	0.21
4-Chloroaniline	ND		0.020	0.21
Hexachlorobutadiene	ND .		0.016	0.31
4-Chloro-3-methylphenol	ND		0.014	0.21
2-Methylnaphthalene	ND		0.0057	0.10
Hexachlorocyclopentadiene	ND		0.012	1.0
2,4,6-Trichlorophenol	ND		0.010	0.31
2,4,5-Trichlorophenol	ND		0.0088	0.21
2-Chloronaphthalene	ND		0.0031	0.031
2-Nitroaniline	ND		0.011	0.21
Dimethyl phthalate	ND		0.012	0.21
Acenaphthylene	ND		0.0027	0.041
2,6-Dinitrotoluene	ND		0.014	0.21
3-Nitroaniline	ND		0.058	0.21 💜
Acenaphthene	0.17		0.0012	0.052
2,4-Dinitrophenol	ND		0.060	2.6 U
4-Nitrophenol	ND		0.16	1.0 <i>U</i>
Dibenzofuran	0.020	J	0.010	0.21
2,4-Dinitrotoluene	ND		0.012	0.21 <i>(</i> )
Diethyl phthalate	ND.		0.0096	0.21
4-Chlorophenyl phenyl ether	ND		0.012	0.21 🗸
Fluorene	0.40		0.0043	0.031
4-Nitroaniline	ND		0.019	0.31 🗸
	•			

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Job Number: 580-5689-1

Client Sample ID:

07040138

Lab Sample ID:

580-5689-26

04/26/2007 1852

04/25/2007 1300

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8270C 3510C

1.0

Analysis Batch: 580-18102

Instrument ID:

SEA040

Prep Batch: 580-18063

Lab File ID:

ak009231.D

Initial Weight/Volume: Final Weight/Volume:

970 mL 1 mL

Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4,6-Dinitro-2-methylphenol	ND ·		0.055	2.1 🗸
N-Nitrosodiphenylamine	ND		0.013	0.21
4-Bromophenyl phenyl ether	ND		0.010	0.21
Hexachlorobenzene	ND		0.0085	0.21
Pentachlorophenol	ND		0.013	$0.36$ $\checkmark$
Phenanthrene	0.078		0.0025	0.041
Anthracene	ND	, .	0.0020	0.021 🕖
Di-n-butyl phthalate	-0.093	- JENW	0.0091	0.21 <i>[ )</i>
Fluoranthene	0.034	HV.	0.0028	0.026
	0.071		0.0021	0.031
Pyrene	ND		0.025	0.31 <i>U</i>
Butyl benzyl phthalate	ND		0.16	1.0 <b>U</b>
3,3'-Dichlorobenzidine	0.017	J	0.0034	0.031
Benzo[a]anthracene	0.067	. ,	0.0046	0.021
Chrysene	ND	MAN	0.019	0.21 ( )
Di-n-octyl phthalate	ND	V 124.	0.0028	0.021 认
Benzo[a]pyrene	ND		0.0053	0.031
Indeno[1,2,3-cd]pyrene	ND		0.0047	0.031
Dibenz(a,h)anthracene	0.037		0.0062	0.031
Benzo[g,h,i]perylene	0.022	J	0.0093	0.21
Carbazole	ND ·	-	0.0054	0.031 $\mathcal{V}$
1-Methylnaphthalene	0.038	J	0.0047	0.041
Benzo[b]fluoranthene	ND	-	0.0057	0.031 <i>U</i>
Benzo[k]fluoranthene				-
Surrogate	%Rec			nce Limits
2-Fluorophenol	18		10 - 12	
Phenol-d5	11		10 - 10	
Nitrobenzene-d5	80		34 - 14	
2-Fluorobiphenyl	52		35 - 14	
2.4,6-Tribromophenol	66		29 - 15	
Terphenyl-d14	76		35 <b>-</b> 16	6

· MM

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040138

Lab Sample ID:

580-5689-26

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18102

Instrument ID:

**SEA040** 

Preparation:

3510C

Prep Batch: 580-18063

Lab File ID:

ak009249.D

Dilution:

Date Prepared:

50

970 mL

04/27/2007 1103 Date Analyzed:

Initial Weight/Volume:

1 mL

Final Weight/Volume:

Injection Volume:

Analyte

04/25/2007 1300

Result (ug/L)

Qualifier

MDL

Bis(2-ethylhexyl) phthalate

- MM

1.6

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040139

Lab Sample ID:

580-5689-27

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18102

Instrument ID:

SEA040

Preparation: Dilution:

3510C

Prep Batch: 580-18063

Lab File ID:

ak009232.D

1.0

Initial Weight/Volume:

995 mL 1 mL

Date Analyzed: Date Prepared: 04/26/2007 1920

Final Weight/Volume:

Injection Volume:

04/25/2007 1300

Analyte	Result (ug/L)	Qualifier	MDL	RL ,
Phenol	₹41 <del>0</del>		0.0074	0.30 ( )
Bis(2-chloroethyl)ether	ND		0.018	0.20
2-Chlorophenol	K-ND		0.022	0.20_ N
1,3-Dichlorobenzene	ND		0.011	0.20 🗸 🔾
1,4-Dichlorobenzene	O 0.051	J	0.012	0.20
Benzyl alcohol	NB		0.013	
1,2-Dichlorobenzene	0.21		0.011	0.20
2-Methylphenol	K-ND		<del>0:038</del>	<del>0.20 U</del> M
Bis(2-chloroisopropyl) ether	o ND		0.0088	0.20 \ <i>U</i>
3 & 4 Methylphenol	K-MD	·	<del>- 0.017</del>	0.40 / L
N-Nitrosodi-n-propylamine	• ND		0.020	0.20
Hexachloroethane	ND		0.013	0.30
Nitrobenzene	ИD		0.0075	0.20
Isophorone	o ND		0.011	0.20
2-Nitrophenol	ND	<del></del>	0.021	0.20 M
2,4-Dimethylphenol	K-ND-		0.018	
Benzoic acid	ND		0.021	1.0
Bis(2-chloroethoxy)methane	ND		0.0095	0.20
2,4-Dichlorophenol	R_ND		0.013	<del></del>
1,2,4-Trichlorobenzene	ND		0.010	0.20
4-Chloroaniline	ND		0.019	0.20
Hexachlorobutadiene	a ND		0.016	0.30
4-Chloro-3-methylphenol	ND		<del>0.014</del>	0.20 W.
Hexachlorocyclopentadiene	a ND	-	0.012	1.0
	L NB		0.010	0.30 m
2,4,6-Trichlorophenol	R-ND		0.0085	0.20
2,4,5-Trichlorophenol	ND		0.0030	0.030
2-Chioronaphthalene	ND		0.011	0.20
2-Nitroaniline	ND		0.012	0.20
Dimethyl phthalate	ND		0.0026	0.040
Acenaphthylene	ND		0.014	0.20
2,6-Dinitrotoluene	ND		0.056	0.20
3-Nitroaniline	Λ 2.9		0.0012	0.050
Acenaphthene	RND		0.058	
2,4-Dinitrophenol	R CND-		<del>0.18</del>	1.0
4-Nitrophenol	ND	<u> </u>	0.0098	0.20
Dibenzofuran			0.0030	0.20
2,4-Dinitrotoluene	ND ND		0.0093	0.20
Diethyl phthalate			0.0093	0.20
4-Chlorophenyi phenyl ether	ND		0.012	0.030
Fluorene	3.9		0.0042	0.30
4-Nitroaniline	O ND		0.018	Tasa
4,6-Dinitro-2-methylphenol	K ND		0.013	0.20
N-Nitrosodiphenylamine	ND		0.013	0.20

STL Seattle

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Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040139

Lab Sample ID:

580-5689-27

04/26/2007 1920

04/25/2007 1300

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation:

Dilution:

Date Analyzed:

Date Prepared:

8270C 3510C

1.0

Analysis Batch: 580-18102

Instrument ID:

SEA040

Prep Batch: 580-18063

Lab File ID:

ak009232.D

Initial Weight/Volume:

995 mL

Final Weight/Volume:

1 mL

Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4-Bromophenyl phenyl ether	ND		0.010	0.20
Hexachlorobenzene	n ND		0.0082	0.20
Pentachlorophenol	MD		0.013	0:35 <b>V</b> V
Phenanthrene	2.3		0.0024	0.040
Anthracene	0.12		0.0019	0.020
Di-n-butyl phthalate	0.11		8800.0	0.20 🕖
Fluoranthene	0.037	į, į	0.0027	0.025
Pyrene	0.041	, .	0.0020	0.030
Butyl benzyl phthalate	0.26		0.024	0.30 U
3,3'-Dichlorobenzidine	ND	<b>γ</b> υ·-	0.16	1.0 🗘
Benzo[a]anthracene	ND		0.0033	0.030
Chrysene	ND		0.0045	0.020
Di-n-octyl phthalate	ND	ZNV	0.018	0.20
Benzo[a]pyrene	ND	חוון	0.0027	0.020
Indeno[1,2,3-cd]pyrene	ND		0.0051	0.030
Dibenz(a,h)anthracene	ND		0.0046	0.030
Benzo[g,h,i]perylene	· ND		0.0060	0.030
Carbazole	0.13	J	0.0090	0.20
Benzo[b]fluoranthene	ND		0.0046	0.040 <i>U</i>
Benzo[k]fluoranthene	ND		0.0055	0.030 ()
Surrogate	%Rec		Accepta	ance Limits
2-Fluorophenol	17		10 - 12	20
Phenol-d5	9	ΧI	10 - 10	02
Nitrobenzene-d5	87		34 - 14	46
2-Fluorobiphenyl	77		35 - 14	43
2,4,6-Tribromophenol	87		29 - 1	51
Terphenyl-d14	79		35 - 16	66

MW 52407

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040139

Lab Sample ID:

580-5689-27

04/25/2007 1300

Client Matrix:

Water

Date Sampled: Date Received: 04/21/2007 0000

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

Dilution:

Preparation:

Date Analyzed: Date Prepared:

3510C

10

Analysis Batch: 580-18102 Prep Batch: 580-18063

Instrument ID:

SEA040

Lab File ID:

ak009251.D

04/27/2007 1158

Initial Weight/Volume: Final Weight/Volume:

995 mL 1 mL

Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
Naphthalene	7.1	-	0.014	2.0
2-Methylnaphthalene	34		0.055	1.0
1-Methylnaphthalene	29		0.052	0.30

1 MW

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040139

Lab Sample ID:

580-5689-27

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C 3510C Analysis Batch: 580-18102

Instrument ID:

**SEA040** 

Preparation:

Lab File ID:

ak009250.D

Dilution:

100

Prep Batch: 580-18063

initial Weight/Volume:

995 mL 1 mL

Date Analyzed: Date Prepared: 04/27/2007 1130 04/25/2007 1300 Final Weight/Volume: Injection Volume:

Analyte

Result (ug/L)

Qualifier

MDL

RL.

Bis(2-ethylhexyl) phthalate

390

3.2

150

ENIN ENLA

Job Number: 580-5689-1

Client Sample ID:

07040140

Lab Sample ID:

580-5689-28

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Client: Ecology and Environment, Inc.

Analysis Batch: 580-18102

Instrument ID:

SEA040

Preparation:

3510C

Prep Batch: 580-18063

Lab File ID:

ak009233.D

Dilution:

Initial Weight/Volume:

1055 mL

Date Analyzed: Date Prepared: 10

Final Weight/Volume:

1 mL

04/26/2007 1947 04/25/2007 1300

Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL,
Phenol	(NB		0.070	2.8 W
Bis(2-chloroethyl)ether	O ND	4	0.17	1.9 <b>U</b>
2-Chlorophenol	(ND		0.21	1.9w
1,3-Dichlorobenzene	ND		0.10	1.9
1,4-Dichlorobenzene	, ND		.0.11	1.9
Benzyl alcohol	K-ND		<del>0.12</del>	— 1:9 1/7/V
1,2-Dichlorobenzene	0.53 ر	J	0.10	1.9
2-Methylphenol	KND		0.36	
Bis(2-chloroisopropyl) ether	ND ND		0.083	1.9 <b>V</b>
3 & 4 Methylphenol	Q-ND		<del></del>	<del>3.8-</del>
N-Nitrosodi-n-propylamine	ND		0.19	1.9 . <b>V</b>
Hexachloroethane	ND		0.12	2.8
Nitrobenzene	ND		0.071	1.9
Isophorone	ND م		0.10	1.9 <b>Y</b>
2-Nitrophenol	K-ND		0.20	<del></del>
2,4-Dimethylphenol	R-ND-		<del></del>	9.5 - h
Benzoic acid	KND		0-20	<del>9.5/4</del> /-
Bis(2-chloroethoxy)methane	ND		0.090	1.9 <b>[</b> ]
2,4-Dichlorophenol	K-ND		0.12	- 1.9 - W
1,2,4-Trichlorobenzene	ND		0.095	1.9
4-Chloroaniline	ND		0.18	1.9
Hexachlorobutadiene	<b>√</b> ND		0.15	2.8 <b>V</b>
4-Chloro-3-methylphenol	KND		0.13	<del>- 1.9</del> - <b>V</b>
Hexachlorocyclopentadiene	ND		0.11	9.5
2,4,6-Trichlorophenol	K-ND		0.095	2.8M
2,4,5-Trichlorophenol	D-ND		0.081	
2-Chloronaphthalene	ND		0.028	0.28
2-Nitroaniline	ND		0.10	1.9
Dimethyl phthalate	ND ·		0.11	1.9
Acenaphthylene	ND		0.025	0.38
2,6-Dinitrotoluene	ND		0.13	1.9
3-Nitroaniline	ND	-	0.53	1.9
Acenaphthene	n 9.3		0.011	0.47
2,4-Dinitrophenol	L <sub>ND</sub>		0.55	24 1 ) 1 MM
4-Nitrophenol	R-ND		1.5	-9.5 TW
Dibenzofuran	ND		0.093	1.9
2,4-Dinitrotoluene	ND		0.11	1.9
Diethyl phthalate	ND		0.088	1.9
4-Chlorophenyl phenyl ether	ND		0.11	1.9
Fluorene	34		0.040	0.28
4-Nitroaniline	ND		0.17	2.8
4,6-Dinitro-2-methylphenol	19		0.50	19
N-Nitrosodiphenylamine	12		0.12	1.9
N-Miliosodiphenylamine	12		4	1.0
· ·		_	1. 1.	•

Page 66 of 1246 STL Seattle

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040140

Lab Sample ID:

580-5689-28

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18102

Instrument ID:

**SEA040** 

Preparation:

3510C

Lab File ID:

Dilution:

Prep Batch: 580-18063

ak009233.D

10

Initial Weight/Volume:

1055 mL 1 mL

Date Analyzed: Date Prepared: 04/26/2007 1947 04/25/2007 1300 Final Weight/Volume: Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL
4-Bromophenyl phenyl ether	ND		0.095	1.9 🔾
Hexachlorobenzene	ND		0.078	1.9
Pentachlorophenoi	ND		0.12	3.3 ₩
Anthracene	4.4		0.018	0.19
Di-n-butyl phthalate	ND		0.083	1.9 <b>U</b>
Fluoranthene	4.2		0.026	0.24
Pyrene	8.6		0.019	0.28
Butyl benzyl phthalate	ND		0.23	2.8 <b>()</b> ,
3,3'-Dichlorobenzidine	ND		1.5	9.5 🕖
Benzo[a]anthracene	1.6		0,031	0.28
Chrysene	3.0	2	0.043	0.19
Bis(2-ethylhexyl) phthalate	. <del>2</del> .0	<del></del>	0.30	14 <b>U</b> ,
Di-n-octyl phthalate	ND,	Mr.	0.17	1.9 U
Benzo[a]pyrene	0.85	·	0.026	0.19
indeno[1,2,3-cd]pyrene	ND		0.048	0.28 ()
Dibenz(a,h)anthracene	ND		0.044	0.28 🕖
Benzo[g,h,i]perylene	0.51		0.057	0.28
Carbazole	. ND		0.085	1.9 🔰
Benzo[b]fluoranthene	0.84		0.044	0.38
Benzo[k]fluoranthene	ND		0.052	0.28 🕖
Surrogate	%Rec		Accepta	ance Limits
2-Fluorophenol	2 7	ΧI	10 - 1:	20
Phenol-d5	7	XΙ	10 - 1	02
Nitrobenzene-d5	561	١X	34 - 1	46
2-Fluorobiphenyl	64		35 - 1	
2,4,6-Tribromophenol	130		29 - 1	51
Terphenyl-d14	105		35 - 1	66

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040140

Lab Sample ID:

580-5689-28

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18102

Instrument ID:

SEA040

Preparation:

3510C

Lab File ID:

ak009252.D

Dilution:

100

Prep Batch: 580-18063

Initial Weight/Volume:

1055 mL

Date Analyzed:

04/27/2007 1225

Final Weight/Volume:

1 mL

Date Prepared:

04/25/2007 1300

Analyte	Result (ug/L)	Qualifier	MDL	RL	
Naphthalene	63		0.13	19	
2-Methylnaphthalene	270		0.52	9.5	
Phenanthrene	59		0.23	3.8	
1-Methylnaphthalene	210		0.49	2.8	

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040141

Lab Sample ID:

580-5689-29

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation: 8270C

3510C

Analysis Batch: 580-18102 Prep Batch: 580-18063

Instrument ID:

SEA040

Lab File ID:

ak009336.D

Dilution:

1.0

Initial Weight/Volume:

1000 mL

Date Analyzed:

Final Weight/Volume:

1 mL

Date Prepared:

05/01/2007 1705 04/25/2007 1300

Analyte	Result (ug/L)	Qualifier	MDL	RL ,
Phenol	KAB		0.0074	-0.30 Upm
Bis(2-chloroethyl)ether	ND		0.018	0.20   0
2-Chlorophenol	KND	and the contract of the contra	0.022	0.20 AN
1,3-Dichlorobenzene	' ND		0.011	0.20
1,4-Dichlorobenzene	a ND		0.012	0.20
Benzyl alcohol	L -ND		0.013	0.20 FM
1,2-Dichlorobenzene	0.048	J	0.011	0.20
2-Methylphenol	V ND	Minteresta and the second seco	0.038	-0201 MK
Bis(2-chloroisopropyl) ether	ND		0.0088	0.20
3 & 4 Methylphenol	) <del>ND</del>		0.017	0.40 JW
N-Nitrosodi-n-propylamine	ND		0.020	0.20 <b>U</b>
Hexachloroethane	ND		0.013	0.30
Nitrobenzene	ND		0.0075	0.20
Isophorone	∧ ND		0.011	0.20
2-Nitrophenol	K AD		0.021	0.20 M
2,4-Dimethylphenol	R-ND		0.018	-1.0-TAN
Benzoic acid	'R -ND		0.021	10 min
Bis(2-chloroethoxy)methane	ND		0.0095	0.20
2,4-Dichlorophenol	R-ND		0.013	- <del>0.20</del> 1/1/2
1,2,4-Trichlorobenzene	ND		0.010	0.20
Naphthalene	ND		0.0014	0.20
4-Chloroaniline	ND		0.019	0.20
Hexachlorobutadiene	ND		0.016	0.30
4-Chloro-3-methylphenol	P-ND	The second secon	0.044	-0.20 IMW
2-Methylnaphthalene	ND		0.0055	0.10
Hexachlorocyclopentadiene	∧ ND		0.012	1.0
2,4,6-Trichlorophenol	RND		0.010	-0.30 YW
2,4,5-Trichlorophenol	RND		0.0085	0.20 Am
2-Chloronaphthalene	ND		0.0030	0.030
2-Nitroaniline	ND		0.011	0.20
Dimethyl phthalate	ND		0.012	0.20
Acenaphthylene	ND		0.0026	0.040
2,6-Dinitrotoluene	ND		0.014	0.20
3-Nitroaniline	ND		0.056	0.20
	0.60		0.0012	0.050
Acenaphthene	R ND		0.058	2.5 M
2,4-Dinitrophenol	R AD		0.050	10 7m
4-Nitrophenol	ND		0.0098	0.20
Dibenzofuran			0.012	0.20
2,4-Dinitrotoluene	ND		0.0093	0.20
Diethyl phthalate	ND ND			
4-Chlorophenyl phenyl ether			0.012	0.20
Fluorene	0.40		0.0042	0.030
4-Nitroaniline	ND		0.018	0.30 🗸
STL Seattle	Page 69 of 12	246	MW 5-	40

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040141

Lab Sample ID:

580-5689-29

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

Dilution:

Preparation:

Date Analyzed:

Date Prepared:

8270C

1.0

3510C

05/01/2007 1705

04/25/2007 1300

Analysis Batch: 580-18102 Prep Batch: 580-18063

Instrument ID:

SEA040

Lab File ID:

ak009336.D

Initial Weight/Volume:

1000 mL

Final Weight/Volume:

1 mL

Analyte	Result (ug/L)	Qualifier	MDL	RL .	
4,6-Dinitro-2-methylphenol	KND		0.053		
N-Nitrosodiphenylamine	ND		0.013	0.20	
4-Bromophenyl phenyl ether	ND		0.010	0.20	
Hexachlorobenzene	o ND		0.0082	0.20	
	K ND		0:013	<del>0.35</del> <b>√</b> M~	
Pentachlorophenol	0.026	J	0.0024	0.040	
Phenanthrene	0.019	Ĵ.	0.0019	0.020	
Anthracene	<del>-0:098</del>		0.0088	0.20 <b>U</b> ,	
Di-n-butyl phthalate	ND	- v Aliv	0.0027	0.025 <b>(</b> )	
Fluoranthene	ND		0.0020	0.030 ()	
Pyrene	0.092	10	0.024	0.30 0	
Butyl benzyl phthalate		- 2 MW	0.16	1.0	
3,3'-Dichlorobenzidine	ND		0.0033	0.030	
Benzo[a]anthracene	ND		0.0045	0.020	
Chrysene	ND	JAM	0.018	0.20	
Di-n-octyl phthalate	0.080	2 <b>\</b> M\	0.018	0.020 ()	
Benzo[a]pyrene	ND		0.0027	0.030	
Indeno[1,2,3-cd]pyrene	ND			0.030	
Dibenz(a,h)anthracene	ND		0.0046	0.030	
Benzo[g,h,i]perylene	ND		0.0060		
Carbazole	ND		0.0090	0.20	
1-Methylnaphthalene	ND	.∵	0.0052	0.030	
Benzo[b]fluoranthene	ND		0.0046	0.040	
Benzo[k]fluoranthene	ND		0.0055	0.030	
Surrogate	%Rec		Acceptance Limits		
	11 ·		10 - 120		
2-Fluorophenol	8	ΧI	10 - 102		
Phenol-d5	72	34 - 146			
Nitrobenzene-d5	68	35 - 143			
2-Fluorobiphenyl	71	29 - 151			
2,4,6-Tribromophenol	60		35 - 16	6	
Terphenyl-d14	<b>U</b> U		:-		

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040141

Lab Sample ID:

580-5689-29

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation: 8270C

Analysis Batch: 580-18102

Instrument ID:

SEA040

3510C

Lab File ID:

ak009253.D

Dilution: 50 Prep Batch: 580-18063

Initial Weight/Volume:

1000 mL

04/27/2007 1253 Date Analyzed: Date Prepared:

04/25/2007 1300

Final Weight/Volume:

1 mL

Injection Volume:

Analyte

Result (ug/L)

Qualifier

#m~

MDL

RL

Bis(2-ethylhexyl) phthalate

210

1.6

Job Number: 580-5689-1

Client Sample ID:

07040142

Lab Sample ID:

580-5689-30

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation: 8270C 3510C Analysis Batch: 580-18102

Instrument ID: Lab File ID:

SEA040 ak009235.D

Dilution:

Prep Batch: 580-18063

Initial Weight/Volume:

970 mL 1 mL

Date Analyzed:

1.0

04/26/2007 2042

Date Prepared:

04/25/2007 1300

Final Weight/Volume:

Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL	RL ()
Phenol	ND		0.0076	0.31
Bis(2-chloroethyl)ether	ND		0.019	0.21
2-Chlorophenoi	ND		0.023	0.21
1,3-Dichlorobenzene	ND		0.011	0.21
1,4-Dichlorobenzene	ND		0.012	0.21
Benzyl alcohol	ND		0.013	0.21
1,2-Dichlorobenzene	ND	•	0.011	0.21
2-Methylphenol	ND ·		0.039	0:21
Bis(2-chloroisopropyl) ether	ND		0.0091	0.21
3 & 4 Methylphenol	ND		0.018	0.41
N-Nitrosodi-n-propylamine	ND		0.021	0.21
Hexachloroethane	ND		0.013	0.31
Nitrobenzene	ND		0.0077	0.21
Isophorone	ND		0.011	0.21
2-Nitrophenol	ND		0.022	0.21
2,4-Dimethylphenol	ND		0.019	1.0
Benzoic acid	ND		0.022	1.0
Bis(2-chloroethoxy)methane	··· ND		0.0098	0.21
2,4-Dichlorophenol	ND		0.013	0.21
1,2,4-Trichlorobenzene	ND		0.010	0.21
Naphthalene	ND		0.0014	0.21
4-Chloroaniline	ND	•	0.020	0.21
Hexachlorobutadiene	ND		0.016	0.31
4-Chloro-3-methylphenol	ND		0.014	0.21
2-Methylnaphthalene	ND		0.0057	0.10
Hexachlorocyclopentadiene	ND		0.012	1.0
2,4,6-Trichlorophenol	ND .		0.010	0.31
2,4,5-Trichlorophenol	ND		0.0088	0.21
2-Chloronaphthalene	ND		0.0031	0.031
2-Nitroaniline	ND		0.011	0.21
Dimethyl phthalate	ND		0.012	0.21
Acenaphthylene	ND		0.0027	0.041
2,6-Dinitrotoluene	ND		0.014	0.21
3-Nitroaniline	ND		0.058	0.21
Acenaphthene	, ND		0.0012	0.052
2,4-Dinitrophenol	ND		0.060	2.6
4-Nitrophenol	ND		0.16	1.0
Dibenzofuran	ND		0.010	0.21
2,4-Dinitrotoluene	ND		0.012	0.21
Diethyl phthalate	ND		0.0096	0.21 0.21
4-Chlorophenyl phenyl ether	ND		0.012	1 .
Fluorene	ND		0.0043	0.031 0.31
4-Nitroaniline	ND		0.019	0.31

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Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040142

Lab Sample ID:

580-5689-30

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18102

Instrument ID:

SEA040

Preparation:

3510C

Prep Batch: 580-18063

Lab File ID:

ak009235.D

Dilution:

Initial Weight/Volume:

970 mL

1.0

Final Weight/Volume:

1 mL

Date Analyzed: Date Prepared: 04/26/2007 2042 04/25/2007 1300

Analyte	Result (ug/L)	Qualifier	MDL	RL	
4,6-Dinitro-2-methylphenol	ND		0.055	2.1	
N-Nitrosodiphenylamine	ND		0.013	0.21	
4-Bromophenyl phenyl ether	ND		0.010	0.21	
Hexachlorobenzene	ND		0.0085	0.21	
Pentachlorophenol	ND		0.013	0.36	
Phenanthrene	ND		0.0025	0.041	
Anthracene	ND	1	0.0020	0.021 🗸	
Di-n-butyl phthalate	0.085		0.0091	0.21 <b>U</b> .	
Fluoranthene	ND	<b>, , ,</b>	0.0028	0.026 🕖	
Pyrene	ND	,	0.0021	0.031 <b>,U</b>	
Butyl benzyl phthalate	0.005	<del>J.</del> ₩	0.025	0.31 <b>U</b>	
3,3'-Dichlorobenzidine	ND	<b>Z</b> -	0.16	1.0 ()	
. Benzo[a]anthracene	ND		0.0034	0.031 \( \)	
Chrysene	ND		0.0046	0.021	
Di-n-octyl phthalate	ND	(*AW	0.019	0.21	
Benzo[a]pyrene	ND		0.0028	0.021	
Indeno[1,2,3-cd]pyrene	ND		0.0053	0.031	
Dibenz(a,h)anthracene	ND		0.0047	0.031	
Benzo[g,h,i]perylene	ND		0.0062	0.031	
Carbazole	ND		0.0093	0.21	
1-Methylnaphthalene	ND	•	0.0054	0.031	
Benzo[b]fluoranthene	ND "	•	0.0047	0.041	
Benzo[k]fluoranthene	ND		0.0057	0.031	
Surrogate	%Rec		Acceptance Limits		
2-Fluorophenol	36	10 - 120			
Phenol-d5	26	10 - 102			
Nitrobenzene-d5	81	34 - 146			
2-Fluorobiphenyl	72	35 - 143			
2,4,6-Tribromophenol	62		29 - 15	51	
Terphenyl-d14	79		35 - 16	36	



Job Number: 580-5689-1

Client Sample ID:

07040142

Lab Sample ID:

580-5689-30

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Client: Ecology and Environment, Inc.

3510C

Analysis Batch: 580-18102

Instrument ID:

**SEA040** 

Preparation:

Lab File ID:

Prep Batch: 580-18063

ak009254.D

Dilution:

20

Initial Weight/Volume:

970 mL

04/27/2007 1320

Final Weight/Volume:

Date Analyzed: Date Prepared:

04/25/2007 1300

Injection Volume:

1 mL

Analyte

Result (ug/L)

Qualifier

MDL

(MW 57:407

RL

Bis(2-ethylhexyl) phthalate

71

0.66

31

Page 74 of 1246

Job Number: 580-5689-1

Client Sample ID:

07040143

Lab Sample ID:

580-5689-31

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received: 04/23/2007 1235

# 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18102

Instrument ID;

**SEA040** 

Preparation:

3510C

Prep Batch: 580-18063

Lab File ID:

ak009214.D

Dilution:

1.0

Initial Weight/Volume:

1005 mL

04/25/2007 2323 Date Analyzed:

Final Weight/Volume:

1 mL

Date Prepared:

04/25/2007 1300

Injection Volume:

Analyte	Result (ug/L)	Qualifier	MDL .	RL 1
Phenol	ND		0.0074	0.30
Bis(2-chloroethyl)ether	ND		0.018	0.20 {
2-Chlorophenol	ND		0.022	0.20
1,3-Dichlorobenzene	ND	-	0.011	0.20
1,4-Dichlorobenzene	ND		0.012	0.20
Benzyl alcohol	ND		0.013	0.20
1,2-Dichlorobenzene	ND		0.011	0.20
2-Methylphenol	ND '		0.038	0.20
Bis(2-chloroisopropyl) ether	ND		0.0088	0.20
3 & 4 Methylphenol	ND		0.017	0.40
N-Nitrosodi-n-propylamine	ND		0.020	0.20
Hexachloroethane	ND		0.013	0.30
Nitrobenzene	ND		0.0075	0.20
Isophorone	ND		0.011	0.20
2-Nitrophenol	ND		0.021	0.20
2,4-Dimethylphenol	ND		0.018	1.0
Benzoic acid	ND		0.021	1.0
Bis(2-chloroethoxy)methane	ND		0.0095	0.20
2,4-Dichlorophenol	ND		0.013	0.20
1,2,4-Trichlorobenzene	ND		0.010	0.20
Naphthalene	ND		0.0014	0.20
4-Chloroaniline	ND		0.019	0.20
Hexachlorobutadiene	ND		0.016	0.30
4-Chioro-3-methylphenol	ND	•	0.014	0.20
2-Methylnaphthalene	ND		0.0055	0.10
Hexachlorocyclopentadiene	ND		0.012	1.0
2,4,6-Trichlorophenol	ND		0.010	0.30
2,4,5-Trichlorophenol	ND		0.0085	0.20
2-Chloronaphthalene	ND		0.0030	0.030
2-Nitroaniline	ND		0.011	0.20
Dimethyl phthalate	ND		0.012	0.20
Acenaphthylene	ND		0.0026	0.040
2,6-Dinitrotoluene	ND		0.014	0.20
3-Nitroaniline	ND		0.056	0.20
Acenaphthene	ND		0.0012	0.050
2,4-Dinitrophenol	ND		0.058	2.5
4-Nitrophenol	ND		0.16	1.0
Dibenzofuran	ND		0.0098	0.20
2,4-Dinitrotoluene	ND		0.012	0.20
Diethyl phthalate	0.018	J ·	0.0093	0.20
4-Chlorophenyl phenyl ether	ND		0.012	0.20
Fluorene	ND		0.0042	0.030
4-Nitroaniline	ND		0.018	0.30 🌾
			_	

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**STL Seattle** 

Job Number: 580-5689-1

Client Sample ID:

07040143

Lab Sample ID:

580-5689-31

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method: Preparation: 8270C 3510C Analysis Batch: 580-18102

Instrument ID: Lab File ID:

SEA040 ak009214.D

Dilution:

1.0

Prep Batch: 580-18063

Initial Weight/Volume:

1005 mL

Date Analyzed:

04/25/2007 2323

Final Weight/Volume:

1 mL

Date Prepared:

04/25/2007 1300

Injection Volume: "

Analyte	Result (ug/L)	Qualifier	MDL	RL 1
4,6-Dinitro-2-methylphenol	ND		0.053	2.0 U
N-Nitrosodiphenylamine	ND		0.013	0.20
4-Bromophenyl phenyl ether	ND		0.010	0.20
Hexachlorobenzene	ND .		0.0082	0.20
Pentachlorophenol	ND		0.013	0.35
Phenanthrene	· ND		0.0024	0.040 🔻
Anthracene	0.0026	J	0.0019	0.020
Di-n-butyl phthalate	2.5	Byther	0.0088	0.20
Fluoranthene	ND .	•	0.0027	0.025 🗸
Pyrene	ND	•	0.0020	0.030 Ŭ
Butyl benzyl phthalate	<del>~0.094</del>		0.024	0.30 📈
3,3'-Dichlorobenzidine	ND	7.	0.16	1.0
Benzo[a]anthracene	ND		0.0033	0.030
Chrysene	ND		0.0045	0.020
Bis(2-ethylhexyl) phthalate	<del>-0.16</del>	J. J	0.032	1.5 <b>U</b>
Di-n-octyl phthalate	ND	J-01-	0.018	0.20
Benzo[a]pyrene	ND		0.0027	0.020 \
Indeno[1,2,3-cd]pyrene	ND	•	0.0051	0.030
Dibenz(a,h)anthracene	ND		0.0046	0.030
Benzo[g,h,i]perylene	ND .		0.0060	0.030
Carbazole	ND		0.0090	0.20
1-Methylnaphthalene	ND		0.0052	0.030
Benzo[b]fluoranthene	ND		0.0046	0.040
Benzo[k]fluoranthene	ND		0.0055	0.030 🎶
Surrogate	%Rec	Acceptance Limits		
2-Fluorophenol	37		10 - 12	20
Phenol-d5	24	•	10 - 10	02
Nitrobenzene-d5	81	<b>34 - 146</b>		
2-Fluorobiphenyl	73		35 - 14	13
2,4,6-Tribromophenol	74		29 - 15	51
Terphenyl-d14	83		35 - 16	66
				i i

1/W 5-24

Job Number: 580-5689-1

Client Sample ID:

07040131

Lab Sample ID:

580-5689-32

Client Matrix:

Waste

Date Sampled:

04/20/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18154

Instrument ID:

**SEA040** 

Preparation:

3580A

Lab File ID:

ak009244.D

Dilution:

Prep Batch: 580-18109

10

Initial Weight/Volume: Final Weight/Volume:

0.1171 g 10 mL

Date Analyzed: Date Prepared: 04/27/2007 0049 04/26/2007 1040

Injection Volume:

Qualifier MDL. Analyte DryWt Corrected: N Result (ug/Kg) RL ND 23000 85000 Phenol ND 26000 85000 Bis(2-chloroethyl)ether ND 20000 85000 2-Chlorophenol ND 10000 43000 1.3-Dichlorobenzene

1,4-Dichlorobenzene ND 6500 43000 ND 26000 85000 Benzyl alcohol ND 15000 43000 1,2-Dichlorobenzene 24000 85000 ND 2-Methylphenol 29000 ND 130000 Bis(2-chloroisopropy!) ether 45000 3 & 4 Methylphenol ND 170000 ND 22000 85000 N-Nitrosodi-n-propylamine 18000 85000 ND Hexachloroethane ND 13000 85000 Nitrobenzene 22000 85000 ND Isophorone 20000 ND 85000 2-Nitrophenol 16000 ND 85000 2,4-Dimethylphenol ND 710000 2100000 Benzoic acid ND 21000 85000 Bis(2-chloroethoxy)methane ND 16000 85000 2.4-Dichlorophenol ND 8500 43000 1,2,4-Trichlorobenzene 320000 Naphthalene 4900 17000 23000 4-Chloroaniline ND 85000 ND 11000 43000 Hexachlorobutadiene 85000

ND 19000 4-Chloro-3-methylphenol 2400000 2-Methylnaphthalene ND Hexachlorocyclopentadiene ND 2,4,6-Trichlorophenol ND 2,4,5-Trichlorophenol ND 2-Chloronaphthalene ND 2-Nitroaniline ND Dimethyl phthalate ND Acenaphthylene ND 2,6-Dinitrotoluene 3-Nitroaniline ND Acenaphthene 130000 2,4-Dinitrophenol ND ND 4-Nitrophenol ND Dibenzofuran

85000

17000

85000

85000

17000

85000

85000

17000

85000

130000

Page 77 of 1246

ND

ND

ND

ND

360000

mw ;

2200

16000

STL Seattle

4-Nitroaniline

Fluorene

2.4-Dinitrotoluene

Diethyl phthalate

4-Chlorophenyl phenyl ether

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040131

Lab Sample ID:

580-5689-32

Client Matrix:

Waste

Date Sampled:

04/20/2007 0000

Date Received:

04/23/2007 1235

#### 8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:

8270C

Analysis Batch: 580-18154

Instrument ID:

**SEA040** 

Preparation:

3580A

Lab File ID:

ak009244.D

Dilution:

Prep Batch: 580-18109

Initial Weight/Volume:

0.1171 g

Date Analyzed:

10

04/27/2007 0049

Final Weight/Volume:

10 mL

Date Prepared:

04/26/2007 1040

Injection Volume:

Analyte	DryWt Corrected: N	Result (ug/Kg)	Qualifier	MDL	RL ,
4,6-Dinitro-2-methylphenol		ND	, ·	230000	850000 \( \bigcap \
N-Nitrosodiphenylamine	4.4	ND	AM	13000	43000 J
4-Bromophenyl phenyl ether		ND		8500	85000
Hexachlorobenzene		ND .	•	9400	43000
Pentachlorophenol		ND		26000	85000
Phenanthrene		700000		3400	17000
Anthracene		63000	•	3700	17000
Di-n-butyl phthalate		ND		11000	170000 <b>U</b>
Fluoranthene		37000		2600	17000
Pyrene .		69000		2300	17000
Butyl benzyl phthalate		ND		25000	85000 ()
3,3'-Dichlorobenzidine		ND		7800	170000 ( )
Benzo[a]anthracene		17000	J·	5600	21000
Chrysene		29000		6400	21000
Bis(2-ethylhexyl) phthalate		ND		200000	1300000 🗸
Di-n-octyl phthalate		ND		28000	170000 🔰
Benzo[a]pyrene		24000	سر ل	7300	26000
Indeno[1,2,3-cd]pyrene		ND	J FRW	10000	34000 V.J
Dibenz(a,h)anthracene		ND		10000	34000 \
Benzo[g,h,i]perylene		ND	_	6200	21000
Carbazole		ND	MIC	28000	130000
1-Methylnaphthalene		1700000		7400	26000
Benzo[b]fluoranthene		21000	•	4600	17000
Benzo[k]fluoranthene		ND		5900	21000 🔰
Surrogate		%Rec		Accepta	nce Limits
2-Fluorophenol		71		36 - 14	15
Phenol-d5		74		38 - 14	19
Nitrobenzene-d5		115		38 - 14	<b>!</b> 1
2-Fluorobiphenvl		84		42 - 14	10

28 - 143 42 - 151

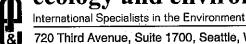
125

74

2,4,6-Tribromophenol

Terphenyl-d14

# ecology and environment, inc.



720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

#### **MEMORANDUM**

DATE:

May 24, 2007

TO:

Steve Hall, Project Manager, E & E, Seattle, Washington

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Organic Data Quality Assurance Review, Avery Landing Site,

Avery, Idaho

REF:

TDD: 07-03-0004

PAN: 002233.0193.01SF

The data quality assurance review of 15 solid, 1 waste, and 13 water samples collected from the Avery Landing site located in Avery, Idaho, has been completed. Analysis for Polychlorinated Biphenyls (PCBs - EPA Method 8082) was performed by STL-Seattle, Tacoma, Washington.

# The samples were numbered:

Solid	07040102 07040114 07040122	07040104 07040116 07040124	07040106 07040117 07040125	07040108 07040119 07040127	07040110 07040120 07040129
Waste	07040131				
Water	07040111 07040136 07040141	07040132 07040137 07040142	07040133 07040138 07040143	07040134 07040139	07040135 07040140

#### Data Qualifications:

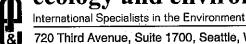
# 1. Sample Holding Times: Acceptable.

Sample receipt temperature was not provided; the laboratory narrative indicated that sample temperature was acceptable. The samples were collected between April 16 and 21, 2007, were extracted between April 24 and 26, 2007, and were analyzed by April 26, 2007, therefore meeting holding time criteria of less than 7 days between collection and extraction (14 days for soil and waste) and less than 40 days between extraction and analysis.

# 2. Instrument Performance: Acceptable.

The surrogate retention time percent difference between the initial calibration standards and the remaining standards and samples was  $\leq 0.3\%$  for capillary column analyses.

# ecology and environment, inc.



720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

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May 24, 2007

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Steve Hall, Project Manager, E & E, Seattle, Washington

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Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

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Waste	07040131				
Water	07040111 07040136 07040141	07040132 07040137 07040142	07040133 07040138 07040143	07040134 07040139	07040135 07040140

#### Data Qualifications:

# 1. Sample Holding Times: Acceptable.

Sample receipt temperature was not provided; the laboratory narrative indicated that sample temperature was acceptable. The samples were collected between April 16 and 21, 2007, were extracted between April 24 and 26, 2007, and were analyzed by April 26, 2007, therefore meeting holding time criteria of less than 7 days between collection and extraction (14 days for soil and waste) and less than 40 days between extraction and analysis.

# 2. Instrument Performance: Acceptable.

The surrogate retention time percent difference between the initial calibration standards and the remaining standards and samples was  $\leq 0.3\%$  for capillary column analyses.

#### 3. Initial and Continuing Calibration: Acceptable.

All initial calibration relative standard deviations (RSDs) were less than 15% except for the SMC dichlorobenzidine; no action was taken based on this outlier. All continuing calibration % differences (% D) were less than 15% and were within QC limits.

#### 4. Error Determination: Not Provided.

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

#### 5. Blanks: Acceptable.

A method blank was prepared at the required frequency of every time samples were extracted for each matrix and for each concentration level, or every 20 samples, whichever is greater, and for each analytical system. No target analytes were detected in any blanks.

# 6. Performance Evaluation Samples: Not Provided.

Performance evaluation samples were not provided to the laboratory.

# 7. System Monitoring Compounds (SMCs): Satisfactory.

All recoveries of the SMCs were within the established control limits except the SMC tetrachloro-m-xylene with low recoveries in samples 07040111, 07040136, 07040138, 07040139, and 07040141. Sample quantitation limits in these samples were qualified as estimated quantities (UJ).

# 8. Blank and Matrix Spikes: Acceptable.

Recoveries of all spiked analytes were within the appropriate control limits.

# 9. Duplicates: Acceptable.

Relative Percent Differences (RPDs) of all spiked analytes were within the required control limits.

# 10. Compound Identification: Satisfactory.

All results were dual-column confirmed with differences between the columns less than 25% except Aroclor 1260 in samples 07040110, 07040129, 07040140, and 07040131. Positive sample results with percent differences between the columns greater than 25% were qualified as estimated quantities (J).

# 11. Target Compound Quantitation and Quantitation Limits: Acceptable.

Sample results and quantitation limits were correctly calculated.

#### 12. Laboratory Contact

No laboratory contact was required.

#### 13. Overall Assessment

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

#### Data Qualifiers and Definitions

- J The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UJ The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040102

Lab Sample ID:

580-5689-1

04/26/2007 0125

04/24/2007 0646

Client Matrix:

Solid

% Moisture:

10.5

Date Sampled:

04/16/2007 0000

Date Received:

04/23/2007 1235

# 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: Preparation:

Dilution:

Date Analyzed:

Date Prepared:

8082 3550B 1.0

Analysis Batch: 580-18145 Prep Batch: 580-17977

Instrument ID:

SEA034

Lab File ID:

PCB7518.D

Initial Weight/Volume: Final Weight/Volume:

10.1021 g

Injection Volume:

10 mL

Column ID:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL , a
PCB-1016		ND		0.0064	0.011 🔾
PCB-1221		ND		0.0064	0.011
PCB-1232	•	ND		0.0064	0.011
PCB-1242		ND		0.0064	0.011
PCB-1248	•	ND		0.0064	0.011
PCB-1254		ND		0.0017	0.011
PCB-1260		0.0098	J	0.0017	0.011
Surrogate		%Rec	Acceptance Limits		nce Limits
Tetrachloro-m-xylene		79	45 - 155		55
DCB Decachlorobiphenyl		71	50 - 150		50

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040104

Lab Sample ID:

Client Matrix:

Solid

580-5689-2

04/26/2007 0149

04/24/2007 0646

% Moisture:

16.4

Date Sampled:

04/17/2007 0000

Date Received:

04/23/2007 1235

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

Date Analyzed:

Date Prepared:

8082

Analysis Batch: 580-18145

Instrument ID:

**SEA034** 

Preparation: 3550B 1.0 Dilution:

Prep Batch: 580-17977

Lab File ID:

PCB7519.D

Initial Weight/Volume:

10.2524 g

Final Weight/Volume:

10 mL

Injection Volume:

Column ID:

**PRIMARY** 

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL j
PCB-1016		ND		0.0068	0.012
PCB-1221		ND		0.0068	0.012
PCB-1232		ND	•	0.0068	0.012
PCB-1242		ND		0.0068	0.012
PCB-1248		ND		0.0068	0.012
PCB-1254		ND		0.0017	0.012, \/
PCB-1260	'	ND		0.0017	0.012
Surrogate		%Rec		Acceptance Limits	
Tetrachioro-m-xylene		83		45 - 155	
DCB Decachlorobiphenyl		82		50 - 1	50

· MW

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040106

Lab Sample ID:

580-5689-4

Client Matrix:

Solid

% Moisture: 27.3

Date Sampled:

04/17/2007 0000

Date Received:

04/23/2007 1235

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 580-18145

Instrument ID:

SEA034

Preparation:

3550B

Lab File ID:

Dilution: 1.0

Prep Batch: 580-17977

Initial Weight/Volume:

PCB7520.D

Final Weight/Volume:

10.3437 g 10 mL

Date Analyzed: Date Prepared: 04/26/2007 0213 04/24/2007 0646

Injection Volume:

Column ID:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
PCB-1016		ND		0.0077	0.013
PCB-1221		ND		0.0077	0.013 7
PCB-1232		ND		0.0077	0.013
PCB-1242		ND		0.0077	0.013
PCB-1248		ND		0.0077	0.013
PCB-1254		ND		0.0020	0.013 $oldsymbol{V}$
PCB-1260		0.13		0.0020	0.013
Surrogate		%Rec	•	Acceptance Limits	
Tetrachloro-m-xylene		94		45 - 15	55
DCB Decachlorobiphenyl	80			50 - 15	50

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040108

Lab Sample ID:

580-5689-5

Client Matrix:

Solid

% Moisture:

10.3

Date Sampled:

04/17/2007 0000

Date Received:

04/23/2007 1235

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 580-18145

instrument ID:

**SEA034** 

Preparation:

Date Analyzed:

Date Prepared:

3550B

Lab File ID:

PCB7521.D

Prep Batch: 580-17977

1.0 Dilution:

Initial Weight/Volume:

10.7649 g

Final Weight/Volume: Injection Volume:

10 mL

04/26/2007 0236 04/24/2007 0646

Column ID:

Analyte	DryWt Corrected: Y Result (mg/l	(g) Qualifier	MDL	RL (
PCB-1016	ND		0.0060	0.010 U
PCB-1010	ND		0.0060	0.010
PCB-1232	ND ·		0.0060	0.010
PCB-1232 PCB-1242	ND		0.0060	0.010
PCB-1242 PCB-1248	ND		0.0060	0.010
• •	ND		0.0016	0.010 \
PCB-1254 PCB-1260	0.019		0.0016	0.010
Surrogate	%Rec		Acceptance Limits	
	86		45 - 155	
Tetrachloro-m-xylene DCB Decachlorobiphenyl	83		50 - 1	50

Job Number: 580-5689-1 Client: Ecology and Environment, Inc.

Client Sample ID: 07040110

Lab Sample ID:

580-5689-6

04/26/2007 0347

04/24/2007 0646

Client Matrix:

Solid

% Moisture: 22.7

Date Sampled:

04/18/2007 0000

Date Received: 04/23/2007 1235

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

Date Analyzed:

Date Prepared:

8082 3550B Analysis Batch: 580-18145

Instrument ID:

**SEA034** 

Preparation: Dilution:

1.0

Prep Batch: 580-17977

Lab File ID:

PCB7524.D

Initial Weight/Volume:

10.1937 g

Final Weight/Volume:

10 mL

Injection Volume:

Column ID:

**PRIMARY** 

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL , ,
PCB-1016	,,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,,	ND		0.0074	0.013 🗸
PCB-1221		ND		0.0074	0.013
PCB-1232		ND		0.0074	0.013
PCB-1242		ND		0.0074	0.013
PCB-1248	•	ND		0.0074	0.013
PCB-1254		ND _		0.0019	0.013 🇸
PCB-1260	•	0.020		0.0019	0.013
Surrogate		%Rec Accept		Accepta	ince Limits
Tetrachloro-m-xylene		69		45 - 15	55
DCB Decachlorobiphenyl		79		50 - 18	50

MW

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040111

Lab Sample ID:

580-5689-7

04/25/2007 1645

04/25/2007 0949

Client Matrix:

Water

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

#### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8082 3510C

1.0

Analysis Batch: 580-18140

Instrument ID:

SEA034

Prep Batch: 580-18052 Lab F

Lab File ID: PCB7493.D

Initial Weight/Volume:

910 mL

Final Weight/Volume:

1 mL

Injection Volume:

Column ID:

PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL
PCB-1016	ND		0.0088	0.055
PCB-1221	ND ·		0.0088	0.055
PCB-1232	ND		0.0088	0.055
PCB-1242	ND		0.0088	0.055
PCB-1248	ND		0.0088	0.055
PCB-1254	ND ·		0.0055	0.055
PCB-1260	ND <sub>.</sub>	•	0.0055	0.055
Surrogate	%Rec		Accepta	ince Limits
Tetrachioro-m-xylene	57	X	60 - 1	50
DCB Decachlorobiphenyl	65		40 - 13	35

MW 5-40

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040114

Lab Sample ID:

Date Analyzed:

Date Prepared:

580-5689-9

Client Matrix:

Solid

% Moisture: 27.0

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 580-18145

Instrument ID:

SEA034

Preparation: Dilution:

3550B 1.0

Prep Batch: 580-17977

Lab File ID:

PCB7527.D

04/26/2007 0458

04/24/2007 0646

Initial Weight/Volume:

10.1749 g

Final Weight/Volume:

10 mL

Injection Volume:

Column ID:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL 1.4
PCB-1016		ND		0.0078	0.013 🗸
PCB-1221	•	ND		0.0078	0.013
PCB-1232		ND		0.0078	0.013
PCB-1242		ND		0.0078	0.013
PCB-1248		ND		0.0078	0.013
PCB-1254		ND		0.0020	0.013 🗸
PCB-1260		0.0092	J	0.0020	0.013
Surrogate		%Rec	Acceptance Limits		ance Limits
Tetrachloro-m-xylene		73		45 - 1	55
DCB Decachlorobiphenyl		79		50 - 1	50

Client: Ecology and Environment, Inc. Job Number: 580-5689-1

Client Sample ID:

07040116

Lab Sample ID:

580-5689-10

04/26/2007 0522

04/24/2007 0646

Client Matrix:

Solid

% Moisture:

12.0

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 580-18145

Instrument ID:

SEA034

Preparation: Dilution:

Date Analyzed:

Date Prepared:

3550B 1.0 Prep Batch: 580-17977

Lab File ID:

PCB7528.D

110

Initial Weight/Volume:

10.3936 g

Final Weight/Volume:

10 mL

Injection Volume:

Column ID:

PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL #
PCB-1016		ND		0.0063	0.011
PCB-1221		ND		0.0063	0.011
PCB-1232		ND		0.0063	0.011
PCB-1242		ND		0.0063	0.011
PCB-1248	•	ND		0.0063	0.011
PCB-1254		ND		0.0016	0.011
PCB-1260		ND		0.0016	0.011 \Upsilon
Surrogate		%Rec		Acceptance Limits	
Tetrachioro-m-xylene		81		45 - 1	55
DCB Decachlorobiphenyl		68		50 - 1	50

MW 524-67

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040117

Lab Sample ID:

04/26/2007 0546

04/24/2007 0646

Client Matrix:

Solid

580-5689-11

% Moisture:

13.6

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

#### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8082 3550B

1.0

Analysis Batch: 580-18145 Prep Batch: 580-17977

Instrument ID:

**SEA034** 

Lab File ID:

PCB7529.D

Initial Weight/Volume:

10.3414 g 10 mL

Final Weight/Volume: Injection Volume:

Column ID:

**PRIMARY** 

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL 40
PCB-1016		ND		0.0065	0.011 🗸
PCB-1221		ND		0.0065	0.011
PCB-1232		ND		0.0065	0.011
PCB-1242		ND		0.0065	0.011
PCB-1248	*	ND		0.0065	0.011
PCB-1254		ND		0.0017	0.01
PCB-1260		0.0044	J	0.0017	0.011
Surrogate		%Rec	Acceptance Limits		ance Limits
Tetrachloro-m-xylene		88		45 - 1	55
DCB Decachlorobiphenyl		75		50 - 1	50

57407

Job Number: 580-5689-1

Client Sample ID:

Client: Ecology and Environment, Inc.

07040119

Lab Sample ID:

580-5689-12

Client Matrix:

Solid

% Moisture: 23.8

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

#### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 580-18145

Instrument ID:

**SEA034** 

Preparation: Dilution:

Date Analyzed:

Date Prepared:

3550B

Lab File ID:

PCB7558.D

1.0

04/26/2007 1712

04/24/2007 0646

Prep Batch: 580-17977

Initial Weight/Volume:

10.3970 g

Final Weight/Volume: 10 mL

Injection Volume:

Column ID:

Analyte	DryWt Corrected: Y Res	ılt (mg/Kg)	Qualifier	MDL	RL
PCB-1016	. NE			0.0073	0.013 🗸
PCB-1221	ND	1		0.0073	0.013 ⋅ [
PCB-1232	ND	ı	•	0.0073	0.013
PCB-1242	NE	1		0.0073	0,013
PCB-1248	NC	ı		0.0073	0.013
PCB-1254	ND	l		0.0019	0.013 [,
PCB-1260	NE	•		0.0019	0.013
Surrogate	%Re	ec		Acceptance Limits	
Tetrachioro-m-xylene	74			45 - 1 <b>5</b> 5	
DCB Decachlorobiphenyl	92		50 - 150		0

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040120

Lab Sample ID:

04/26/2007 0633

04/24/2007 0646

Client Matrix:

Solid

580-5689-13

% Moisture:

9.9

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8082 3550B

1.0

Analysis Batch: 580-18145 Prep Batch: 580-17977

Instrument ID:

**SEA034** 

Lab File ID:

PCB7531.D

Initial Weight/Volume:

10.7270 g 10 mL

Final Weight/Volume:

Injection Volume: Column ID:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL 0
PCB-1016		ND		0.0060	0.010 🗸
PCB-1221		ND	• •	0.0060	0.010
PCB-1232		ND		0.0060	0.010
PCB-1242		ND		0.0060	0.010
PCB-1248		ND		0.0060	0.010
PCB-1254		ND		0.0016	0.010 🗸
PCB-1260		0.022		0.0016	0.010
Surrogate		%Rec	Acceptance Limits		ance Limits
Tetrachloro-m-xylene	<u> </u>	70		45 - 155	
DCB Decachlorobiphenyl		91 50 - 150		50	

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040122

Lab Sample ID:

580-5689-14

Client Matrix:

Solid

% Moisture:

22.3

Date Sampled:

04/18/2007 0000

Date Received:

04/23/2007 1235

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 580-18145

instrument ID:

**SEA034** 

Preparation:

3550B

Prep Batch: 580-17977

Lab File ID:

PCB7532.D

1.0

Initial Weight/Volume:

10.2389 g

Dilution: Date Analyzed:

Final Weight/Volume:

10 mL

Date Prepared:

04/26/2007 0657 04/24/2007 0646

Injection Volume: Column ID:

**PRIMARY** 

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL ,
PCB-1016		ND		0.0073	0.013
PCB-1221		ND		0.0073	0.013
PCB-1232	•	ND		0.0073	0.013
PCB-1242		ND		0.0073	0.013
PCB-1248		ND		0.0073	0.013
PCB-1254		ND		0.0019	0.013
PCB-1260		ND		0.0019	0.013
Surrogate		%Rec		Accepta	ance Limits
Tetrachioro-m-xylene		67		45 - 1	55
DCB Decachlorobiphenyl	•	85		50 - 1	50

(MW)

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040124

Lab Sample ID:

580-5689-15

Client Matrix:

Solid

% Moisture:

11.2

Date Sampled:

04/19/2007 0000

Date Received:

04/23/2007 1235

#### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 580-18145

Instrument ID:

**SEA034** 

Preparation:

Date Analyzed:

Date Prepared:

3550B

Prep Batch: 580-17977

Lab File ID:

PCB7559.D

Dilution: 1.0

Initial Weight/Volume:

10.6542 g 10 mL

04/26/2007 1736 04/24/2007 0646 Final Weight/Volume: Injection Volume:

Column ID:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL 17
PCB-1016		ND		0.0061	0.011 (/
PCB-1221		ND -		0.0061	0.011
PCB-1232	•	ND		0.0061	0.011
PCB-1242		ND		0.0061	0.011
PCB-1248		ND	•	0.0061	0.011
PCB-1254		ND		0.0016	0.011
PCB-1260		ND		0.0016	0.011 🕌
Surrogate	•	%Rec		Acceptance Limits	
Tetrachloro-m-xylene		69		45 - 18	55
DCB Decachlorobiphenyl		92		50 - 1	50

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040125

Lab Sample ID:

580-5689-16

04/26/2007 0744

04/24/2007 0646

Client Matrix:

Solid

% Moisture:

8.5

Date Sampled:

04/19/2007 0000

Date Received:

04/23/2007 1235

#### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 580-18145

Instrument ID:

**SEA034** 

Preparation:

3550B

Dilution:

Prep Batch: 580-17977

Lab File ID:

PCB7534.D

Date Analyzed:

Date Prepared:

1.0

Initial Weight/Volume:

10.5916 g

Final Weight/Volume:

10 mL

Injection Volume:

Column ID:

.Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL , n
PCB-1016		ND		0.0060	0.010 ( )
PCB-1221		ND		0.0060	0.010 \
PCB-1232		ND		0.0060	0.010
PCB-1242		ND		0.0060	0.010
PCB-1248		ND		0.0060	0.010
PCB-1254	•	ND		0.0015	0.010 🚺
PCB-1260		ND		0.0015	0.010 🔻
Surrogate		%Rec		Accepta	ince Limits
Tetrachloro-m-xylene		93		45 - 18	55
DCB Decachlorobiphenyl		80		50 - 15	50

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040127

Lab Sample ID:

580-5689-17

04/26/2007 0808

04/24/2007 0646

Client Matrix:

Solid

% Moisture:

21,1

Date Sampled:

04/19/2007 0000

Date Received:

04/23/2007 1235

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

Dilution:

Date Analyzed:

Date Prepared:

8082

1.0

Analysis Batch: 580-18145 Prep Batch: 580-17977

Instrument ID:

SEA034

Preparation: 3550B

Lab File ID:

PCB7535.D

Initial Weight/Volume:

10.5911 g

Final Weight/Volume:

10 mL

Injection Volume:

Column ID:

**PRIMARY** 

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL	
PCB-1016		ND		0.0069	0.012 V	
PCB-1221		ND		0.0069	0.012	
PCB-1232		ND .	-	0.0069	0.012	•
PCB-1242		ND	•	0.0069	0.012	
PCB-1248		ND		0.0069	0.012 \ /	
PCB-1254		ND		0.0018	0.012 🗸	
PCB-1260		0.0068	J	0.0018	0.012	
Surrogate		%Rec	Acceptance Limits			
Tetrachloro-m-xylene		67		45 - 1	55	-
DCB Decachlorobiphenyl		88-		50 - 1	50	

MW 524-07

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040129

Lab Sample ID:

580-5689-18

Client Matrix:

Solid

% Moisture:

12.3

Date Sampled:

04/19/2007 0000

Date Received:

04/23/2007 1235

# 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 580-18145

instrument ID:

**SEA034** 

3550B Preparation:

Lab File ID:

PCB7536.D

1.0 Dilution:

Prep Batch: 580-17977

Initial Weight/Volume:

10.7332 g 10 mL

Date Analyzed:

04/26/2007 0832

Final Weight/Volume: Injection Volume:

04/24/2007 0646 Date Prepared:

Column ID:

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL 12	
PCB-1016		ND		0.0062	0.011	
PCB-1010	•	ND		0.0062	0.011	
PCB-1232		ND.		0.0062	0.011	
PCB-1232		ND		0.0062	0.011	
PCB-1248	•	ND		0.0062	0.011	
PCB-1254		ND		0.0016	0.011 <b>V</b>	
PCB-1260		0.0065	J	0.0016	0.011	
Surrogate		%Rec	Acceptance Limits			
Tetrachloro-m-xylene		75		45 - 1	55	
DCB Decachlorobiphenyl		90		50 - 1	50	



Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040132

Lab Sample ID:

580-5689-20

04/25/2007 1708

04/25/2007 0949

Client Matrix:

Water

Date Sampled:

04/20/2007 0000

Date Received:

04/23/2007 1235

#### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: Preparation: 8082 3510C Analysis Batch: 580-18140

Instrument ID:

SEA034

Situation: 4.0

Dilution:
Date Analyzed:
Date Prepared:

1.0

Prep Batch: 580-18052

Lab File ID:

PCB7494.D

1 10p Batom 000 10042

Initial Weight/Volume:

1035 mL 1 mL

Final Weight/Volume: Injection Volume:

Column ID:

**PRIMARY** 

Analyte	Result (ug/L)	Qualifier	MDL	RL.
PCB-1016	ND		0.0077	0.048
PCB-1221	ND		0.0077	0.048
PCB-1232	ND		0.0077	0.048
PCB-1242	ND		0.0077	0.048
PCB-1248	ND		0.0077	0.048
PCB-1254	ND		0.0048	0.048
PCB-1260	ND		0.0048	0.048
Surrogate	%Rec	Acceptance Limits		ance Limits
Tetrachloro-m-xylene	78	····	60 - 150	
DCB Decachlorobiphenyl	82		40 - 135	

MW 5-240

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040133

Lab Sample ID:

580-5689-21

04/25/2007 1732

04/25/2007 0949

Client Matrix:

Water

Date Sampled:

04/20/2007 0000

Date Received:

04/23/2007 1235

# 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: Preparation:

Dilution:

Date Analyzed:

Date Prepared:

8082

3510C 1.0

Analysis Batch: 580-18140

Prep Batch: 580-18052

Instrument ID:

**SEA034** 

Lab File ID:

PCB7495.D

Initial Weight/Volume: Final Weight/Volume:

1045 mL 1 mL

Injection Volume:

Column ID:

Analyte	Result (ug/L)	Qualifier	MDL	RL N
PCB-1016	ND		0.0077	0.048
PCB-1221	ND		0.0077	0.048 \( \)
• •	ND		0.0077	0.048
PCB-1232	ND		0.0077	0.048
PCB-1242	ND		0.0077	0.048
PCB-1248	ND	•	0.0048	0.048 \ /
PCB-1254 PCB-1260	ND		0.0048	0.048
Surrogate	%Rec		Acceptance Limits	
<u> </u>	65		60 - 150 40 - 135	
Tetrachloro-m-xylene DCB Decachlorobiphenyl	78			

Job Number: 580-5689-1

07040134 Client Sample ID:

Lab Sample ID:

580-5689-22

04/25/2007 1756

04/25/2007 0949

Client Matrix:

Water

Date Sampled:

04/20/2007 0000

Date Received:

04/23/2007 1235

#### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8082

Client: Ecology and Environment, Inc.

Analysis Batch: 580-18140

Instrument ID: Lab File ID:

**SEA034** 

3510C Prep Batch: 580-18052 1.0

Initial Weight/Volume:

PCB7496.D

Final Weight/Volume:

895 mL

Injection Volume:

1 mL

Column ID:

Analyte	Result (ug/L)	Qualifier	MDL	RL L3
PCB-1016	ND		0.0089	0.056
PCB-1221	ND		0.0089	0.056
PCB-1232	ΝD		0.0089	0.056
PCB-1242	ND		0.0089	0.056
PCB-1248	ND		0.0089	0.056
PCB-1254	ND		0.0056	0.056
PCB-1260	ND		0.0056	0.056 \Upsilon
Surrogate	%Rec		Acceptance Limits	
Tetrachloro-m-xylene	64	60 - 150		50
DCB Decachlorobiphenyl	vl 76 40 - 135		35	

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040135

Lab Sample ID:

580-5689-23

04/25/2007 1819

04/25/2007 0949

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

# 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: Preparation:

Dilution:

Date Analyzed:

Date Prepared:

8082 3510C

1.0

Analysis Batch: 580-18140

Instrument ID:

SEA034

Prep Batch: 580-18052

Lab File ID:

PCB7497.D

Initial Weight/Volume:

860 mL

Final Weight/Volume:

1 mL

Injection Volume:

Column ID:

PRIMARY

Analyte	Result (ug/L)	Qualifier	MDL	RL 19
PCB-1016	ND		0.0093	0.058 🗸
PCB-1221	ND		0.0093	0.058
PCB-1232	ND		0.0093	0.058
PCB-1242	ND		0.0093	0.058
PCB-1248	ND		0.0093	0.058
PCB-1254	ND		0.0058	0.058
PCB-1260	ND		0.0058	0.058 \
Surrogate	%Rec Acceptance I		nce Limits	
Tetrachloro-m-xylene	76		60 - 150	0
DCB Decachlorobiphenyl	83		40 - 13	5

MW 524-07

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040136

Lab Sample ID:

580-5689-24

04/25/2007 2018

04/25/2007 0949

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

#### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8082 3510C

1.0

Analysis Batch: 580-18140

instrument ID:

**SEA034** 

Prep Batch: 580-18052

Lab File ID:

PCB7502.D

Initial Weight/Volume:

980 mL

Final Weight/Volume:

1 mL

Injection Volume:

Column ID:

Analyte	Result (ug/L)	Qualifier	MDL	RL	
PCB-1016	ND		0.0082	0.051	
PCB-1221	ND		0.0082	0.051	
PCB-1232	ND		0.0082	0.051	
PCB-1242	ND	•	0.0082	0.051	
PCB-1248	ND		0.0082	0.051	
PCB-1254	ND		0.0051	0.051	
PCB-1260	ND		0.0051	0.051 🗸	
Surrogate	%Rec		Acceptance Limits		
Tetrachloro-m-xylene	52	Χl	() 60 - 150		
DCB Decachlorobiphenyl	48		40 - 13	35	

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040137

Lab Sample ID:

580-5689-25

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

#### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 580-18140

Instrument ID:

**SEA034** 

Preparation:

3510C

Lab File ID:

Prep Batch: 580-18052

PCB7503.D

Dilution:

1.0

980 mL

Date Analyzed: Date Prepared: 04/25/2007 2041

Initial Weight/Volume: Final Weight/Volume:

,1 mL

04/25/2007 0949

Injection Volume: Column ID:

Analyte	Result (ug/L)	Qualifier	MDL	RL , g
PCB-1016	ND .		0.0082	0.051 🗸
PCB-1221	ND		0.0082	0.051
PCB-1232	ND		0.0082	0.051
PCB-1242	ND		0.0082	0.051
PCB-1248	ND		0.0082	0.051
PCB-1254	ND		0.0051	0.051
PCB-1260	ND		0.0051	0.051 🛚
Surrogate	%Rec Acceptance Limits			ance Limits
Tetrachloro-m-xylene	62		60 - 1	50
DCB Decachlorobiphenyl	59		40 - 1	35
, ·				

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040138

Lab Sample ID:

580-5689-26

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

#### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 580-18140

Instrument ID:

**SEA034** 

3510C

Lab File ID:

PCB7504.D

Preparation:

Prep Batch: 580-18052

1005 mL

Dilution:

1.0

Initial Weight/Volume: Final Weight/Volume:

1 mL

Date Analyzed: Date Prepared: 04/25/2007 2105

04/25/2007 0949

Injection Volume: Column ID:

**PRIMARY** 

Analyte	Result (ug/L)	Qualifier	MDL	RL ·
PCB-1016	ND		0.0080	0.050 ( )
PCB-1221	ND	•	0.0080	0.050
PCB-1232	ND		0.0080	0.050
PCB-1242	ND		0.0080	0.050
PCB-1248	ND		0.0080	0.050
PCB-1254	ND		0.0050	0.050
PCB-1260	ND		0.0050	0.050
Surrogate	%Rec	Acceptance Limits		
Tetrachloro-m-xylene	47	Χl	60 - 15	0
DCB Decachlorobiphenyl	47		40 - 13	5

(MN)

Job Number: 580-5689-1

Client Sample ID:

07040139

Lab Sample ID:

580-5689-27

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

#### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Client: Ecology and Environment, Inc.

Analysis Batch: 580-18140

Instrument ID:

SEA034

Preparation:

3510C

PCB7505.D

Dilution:

Prep Batch: 580-18052

Lab File ID:

1.0

Initial Weight/Volume:

975 mL

Date Analyzed:

04/25/2007 2129

Final Weight/Volume:

1 mL

Date Prepared:

04/25/2007 0949

Injection Volume: Column ID:

**PRIMARY** 

Analyte	Result (ug/L)	Qualifier	MDL	RL , A
PCB-1016	ND		0.0082	0.051
PCB-1221	ND		0.0082	0.051
PCB-1232	ND		0.0082	0.051
PCB-1242	ND		0.0082	0.051
PCB-1248	ND		0.0082	0.051
PCB-1254	ND		0.0051	0.051
PCB-1260	ND		0.0051	0.051
Surrogate	%Rec Acceptance Limits			ince Limits
Tetrachloro-m-xylene	57	ΧI	60 - 1	50
DCB Decachlorobiphenyl	49		40 - 13	35 .

MW (240)

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040140

Lab Sample ID:

580-5689-28

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

#### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: Preparation: 8082 3510C Analysis Batch: 580-18140

Instrument ID:

**SEA034** 

Prep Batch: 580-18052

Lab File ID:

PCB7557.D

Initial Weight/Volume:

935 mL

Dilution: 1.0

Date Analyzed:

04/26/2007 1649

Final Weight/Volume:

1 mL

Date Prepared:

04/25/2007 0949

Injection-Volume: Column ID:

**PRIMARY** 

Analyte	Result (ug/L)	Qualifier	MDL	RL 1
PCB-1016	ND		0.0086	0.053 <b>U</b>
PCB-1221	ND		0.0086	0.053
PCB-1232	ND		0.0086	0.053
PCB-1242	ND		0.0086	0.053
PCB-1248	ND		0.0086	0.053
PCB-1254	ND		0.0053	0.053
PCB-1260	0.028	J	0.0053	0.053
Surrogate Surrog	%Rec		Accepta	nce Limits
Tetrachloro-m-xylene	84	60 - 150		
DCB Decachlorobiphenyl	.52		40 - 13	35

MIN

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040141

Lab Sample ID:

580-5689-29

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 580-18140

Instrument ID:

**SEA034** 

Preparation:

3510C

PCB7507.D

Dilution:

Prep Batch: 580-18052

Lab File ID:

980 mL

1.0

Initial Weight/Volume: Final Weight/Volume:

1 mL

Date Analyzed: Date Prepared:

DCB Decachlorobiphenyl

04/25/2007 2216 04/25/2007 0949

Injection Volume: Column ID:

**PRIMARY** 

40 - 135

Result (ug/L) Qualifier MDL RL Analyte ND 0.0082 0.051 U PCB-1016 ND 0.0082 0.051 PCB-1221 ND 0.0082 0.051 PCB-1232 ND 0.0082 0.051 PCB-1242 0.051 ND 0.0082 PCB-1248 0.0051 0.051 PCB-1254 ND 0.0051 0.051 PCB-1260 ND %Rec Acceptance Limits Surrogate ΧĪ 60 - 150 47 Tetrachloro-m-xylene

41

(MN)

Job Number: 580-5689-1

Client Sample ID:

Client: Ecology and Environment, Inc.

Lab Sample ID:

07040142

580-5689-30

04/25/2007 2240

04/25/2007 0949

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

#### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method: Preparation:

Date Analyzed:

Date Prepared:

Dilution:

8082 3510C

1.0

Analysis Batch: 580-18140

Instrument ID:

**SEA034** 

Prep Batch: 580-18052

Lab File ID:

PCB7508.D

Initial Weight/Volume:

1010 mL 1 mL

Final Weight/Volume: Injection Volume:

Column ID:

Analyte	Result (ug/L)	Qualifier	MDL	RL 🕖
PCB-1016	ND		0.0079	0.050
PCB-1221	ND		0.0079	0.050
PCB-1232	ND		0.0079	0.050
PCB-1242	ND		0.0079	0.050
PCB-1248	ND		0.0079	0.050
PCB-1254	ND		0.0050	0.050
PCB-1260	ND		0.0050	0.050
Surrogate	%Rec		Accepta	ance Limits
Tetrachloro-m-xylene	63		60 - 1	50
DCB Decachlorobiphenyl	56		40 - 13	35

Job Number: 580-5689-1

Client: Ecology and Environment, Inc.

Client Sample ID:

07040143

Lab Sample ID:

580-5689-31

Client Matrix:

Water

Date Sampled:

04/21/2007 0000

Date Received:

04/23/2007 1235

# 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 580-18140

Instrument ID:

**SEA034** 

Preparation:

3510C

Lab File ID:

PCB7509.D

Prep Batch: 580-18052

Dilution:

1.0

Initial Weight/Volume: Final Weight/Volume:

990 mL 1. mL

Date Analyzed: Date Prepared:

04/25/2007 2303 04/25/2007 0949

Injection Volume:

Column ID:

Analyte	Result (ug/L)	Qualifier	MDL	RL ,
PCB-1016	ND		0.0081	0.051
PCB-1221	ND		0.0081	0.051
PCB-1232	ND		0.0081	0.051
PCB-1242	ND		0.0081	0.051
PCB-1248	ND ·		0.0081	0.051
PCB-1254	ND		0.0051	0.051
PCB-1260	ND		0.0051	0.051
Surrogate	%Rec Acceptance Limits		ance Limits	
Tetrachloro-m-xylene	61 60 - 150			50
DCB Decachlorobiphenyl	54		40 - 1	35
DOD DOGGONO(OD)				

Client: Ecology and Environment, Inc.

Job Number: 580-5689-1

Client Sample ID:

07040131

Lab Sample ID:

580-5689-32

Client Matrix:

Waste

Date Sampled:

04/20/2007 0000

Date Received:

04/23/2007 1235

#### 8082 Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Method:

8082

Analysis Batch: 580-18153

Instrument ID:

**SEA034** 

Preparation:

3580A

Prep Batch: 580-18059

Lab File ID:

Dilution:

1.0

PCB7555.D

04/26/2007 1602

Initial Weight/Volume: Final Weight/Volume:

0.2115 g 10 mL

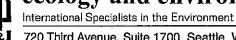
Date Analyzed: Date Prepared:

04/25/2007 1130

Injection Volume: Column ID:

Analyte	DryWt Corrected: N	Result (mg/Kg)	Qualifier	MDL	RL ,
PCB-1016	·	ND		0.27	0.47 ()
PCB-1221		ND		0.27	0.47
PCB-1232		ND		0.27	0.47
PCB-1242		ND		0.27	0.47
PCB-1248		ND		0.27	0.47 \
PCB-1254		ND		0.071	0.47
PCB-1260		0.33	J	0.071	0.47
Surrogate		%Rec Acceptance Limits		ance Limits	
Tetrachioro-m-xylene		70	45 - 155		
DCB Decachlorobiphenyl		88	50 - 150		

# ecology and environment, inc.



720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

#### **MEMORANDUM**

DATE:

May 26, 2007

TO:

Steve Hall, Project Manager, E & E, Seattle, Washington

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington M W

SUBJ:

Organic Data Quality Assurance Review, Avery Landing Site,

Avery, Idaho

REF:

TDD: 07-03-0004

PAN: 002233.0193.01SF

The data quality assurance review of 4 water samples collected from the Avery Landing site located in Avery, Idaho, has been completed. Analysis for Extended Diesel Range Total Petroleum Hydrocarbons (Ecology Method NWTPH-Dx) was performed by Laucks Testing Services, Seattle, Washington.

The samples were numbered:

07040132

07040133

07040134

07040143

#### Data Qualifications:

#### Sample Holding Times: Acceptable. 1.

The samples were collected on April 20, 2007, extracted on April 24, 2007, and analyzed on May 8, 2007, therefore meeting QC criteria of less than 7 days between collection and extraction for water samples and less than 40 days between extraction and analysis.

#### Initial Calibration: Acceptable. 2.

Calculations were verified as correct. All relative percent differences (RPDs) were less than or equal to the laboratory control limits.

#### Continuing Calibration: Acceptable. 3.

Calculations were verified as correct. All percent differences (%Ds) were ≤ the laboratory control limits of 15%.

#### Error Determination: Not Performed. 4.

Samples necessary for bias and precision determination were not provided to the laboratory. All

samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

#### 5. Blanks: Acceptable.

A method blank was analyzed for each extraction batch for each matrix and analysis system. Diesel- and motor oil-range TPHs were not detected in any blank.

#### 6. System Monitoring Compounds (SMC): Acceptable.

All recoveries of the SMCs were greater than 10% and within QC criteria.

#### 7. Performance Evaluation Samples: Not Provided.

Performance evaluation samples were not provided to the laboratory.

#### 8. Blank Spikes: Acceptable.

Blank spike results were within QC limits.

#### 9. Quantitation and Quantitation Limits: Acceptable.

Sample concentrations were correctly calculated.

#### 10. Laboratory Contact: Not Required.

No laboratory contact was required.

#### 11. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan, the OSWER Directive "Quality Assurance/Quality Control Guidance for Removal Activities, Data Validation Procedures" (EPA/540/G-90/004) and the analytical method. Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

#### Data Qualifiers and Definitions

- J The associated numerical value is an estimated quantity because the reported concentrations were less than the sample quantitation limits or because quality control criteria limits were not met.
- U The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

CLIENT	SAMPLE	NO.
0	7040132	

DG No.: IDA01 Run Sequence: R017496  atrix: (SOIL/WATER) Water Lab Sample ID: IDA01-001  ample wt/vol: 1040.0 (g/mL) mL Lab File ID: C507749.d  Moisture: Decanted: (Y/N) N Date Collected: 04/20/2007  xtraction: (Type) SEPF Date Extracted: 04/24/2007  oncentrated Extract Volume: 1000.0 (uL) Date Analyzed: 05/08/2007  mjection Volume: 2.0 (uL) Dilution Factor: 1.0  PC Cleanup: (Y/N) N pH:<2 Sulfur Cleanup: (Y/N) N  CAS NO. COMPOUND CONCENTRATION UNITS: Q		
Lab Sample ID: IDA01-001   Lab File ID: C507749.d   Date Collected: 04/20/2007   Date Extraction: (Type)   SEPF   Date Extracted: 04/24/2007   Date Extracted: 04/24/2007   Date Analyzed: 05/08/2007   Date Analyzed: 05	Lab Name: Laucks Testing Laboratories,	Contract: N/A
Moisture: Decanted: (Y/N) N	SDG No.: IDA01	Run Seguence: R017496
Moisture:	Matrix: (SOIL/WATER) Water	Lab Sample ID: IDA01-001
xtraction: (Type)       SEPF       Date Extracted: 04/24/2007         oncentrated Extract Volume: 1000.0 (uL)       Date Analyzed: 05/08/2007         njection Volume: 2.0 (uL)       Dilution Factor: 1.0         PC Cleanup: (Y/N)       N pH: ≤2 Sulfur Cleanup: (Y/N)       N         CAS NO.       COMPOUND       CONCENTRATION UNITS: (ug/L or ug/kg) mg/L       Q	Sample wt/vol: 1040.0 (g/mL) mL	Lab File ID: C507749.d
Oncentrated Extract Volume:         1000.0 (uL)         Date Analyzed:         05/08/2007           Injection Volume:         2.0 (uL)         Dilution Factor:         1.0           PC Cleanup:         (Y/N) N pH: ≤2 Sulfur Cleanup:         (Y/N) N           CAS NO.         COMPOUND         CONCENTRATION UNITS: (ug/L or ug/kg) mg/L         Q	% Moisture: Decanted: (Y/N) N	Date Collected: 04/20/2007
njection Volume: $2.0$ (uL) Dilution Factor: $1.0$ PC Cleanup: $(Y/N)$ $N$ pH: $\leq 2$ Sulfur Cleanup: $(Y/N)$ $N$ CAS NO. COMPOUND CONCENTRATION UNITS: $(ug/L \text{ or } ug/kg) \text{ mg/L}$	Extraction: (Type) SEPF	Date Extracted: 04/24/2007
PC Cleanup: (Y/N) N pH:<2 Sulfur Cleanup: (Y/N) N  CAS NO. COMPOUND CONCENTRATION UNITS: Q  (ug/L or ug/kg) mg/L Q	Concentrated Extract Volume: 1000.0 (uL)	Date Analyzed: 05/08/2007
CAS NO. COMPOUND CONCENTRATION UNITS: Q (ug/L or ug/kg) mg/L	Injection Volume: 2.0 (uL)	Dilution Factor: 1.0
CAS NO. COMPOUND (ug/L or ug/kg) mg/L Q	GPC Cleanup: (Y/N) N pH: <2	Sulfur Cleanup: (Y/N) N
TPH-Diesel Diesel Range Organics 0.048 U	CAS NO. COMPOUND	
	TPH-Diesel Diesel Range Organics	0.048 U

Comments:

MW 5-26-D FORM I DRO

NWTPH-D = 1 01 1

•		.1		
DIESEL	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT SAMPLE NO. 07040133

Lab Name: Laucks Testing Laboratories,	Contract: N/A
SDG No.: IDA01	Run Sequence: R017496
Matrix: (SOIL/WATER) Water	Lab Sample ID: IDA01-002
Sample wt/vol: $1040.0$ (g/mL) mL	Lab File ID; C507751.d
% Moisture: Decanted: (Y/N) N	Date Collected: 04/20/2007
Extraction: (Type) SEPF	Date Extracted: 04/24/2007
Concentrated Extract Volume: 1000.0 (uL)	Date Analyzed: 05/08/2007
Injection Volume: 2.0 (uL)	Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH:<2	Sulfur Cleanup: (Y/N) N
CAS NO. COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) mg/L Q
TPH-Diesel Diesel Range Organics	0.32
TPH-Oil Oil Range Organics	0.19 U

Comments: The hydrocarbon pattern partially resembles a diesel.

Page 1 of 1

TPHD - 8

DIEGEL ORGANICO A	CLIENT SAMPLE NO.
DIESEL ORGANICS A	07040134
Lab Name: Laucks Testing Laboratories,	Contract: N/A
SDG No.: IDA01	Run Sequence: R017496
Matrix: (SOIL/WATER) _Water	Lab Sample ID: IDA01-003

Lab File ID: C507752.d

Date Collected: 04/20/2007

Extraction: (Type) SEPF Date Extracted: 04/24/2007 Concentrated Extract Volume: 1000.0 (uL) Date Analyzed: 05/08/2007 Injection Volume: 2.0 Dilution Factor: 4.0 GPC Cleanup: (Y/N) N pH:<2 Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) mg/L	·Q
TPH-Diesel	Diesel Range Organics	2.3	
TPH-Oil	Oil Range Organics	1.2	

Comments: The hydrocarbon pattern partially resembles a diesel and partially resembles an oil.

FORM I DRO NWTPH-15-

TPHD - 10

Page 1 of 1

Matrix: (SOIL/WATER) Wate

Sample wt/vol: 1050.0 (g/mL) mL

% Moisture: \_\_\_\_\_ Decanted: (Y/N) N

NWTPH-Dge 1 of 1

		<u>.i.</u>		
DIESEL	ORGANICS	ANALYSIS	DATA	SHEET

CLIENT SAMPLE NO. 07040143

Lab Name: Laucks Testing Laborato	ories, Contract: N/A
SDG No.: IDA01	Run Sequence: R017496
Matrix: (SOIL/WATER) Water	Lab Sample ID: IDA01-004
Sample wt/vol: 1030.0 (g/mL)	mL Lab File ID: C507750.d
% Moisture: Decanted: (Y	Y/N) N Date Collected: 04/20/2007
Extraction: (Type) SEPF	Date Extracted: 04/24/2007
Concentrated Extract Volume: 100	0.0 (uL) Date Analyzed: 05/08/2007
Injection Volume: 2.0	(uL) Dilution Factor: 1.0
GPC Cleanup: (Y/N) N pH:<2	
CAS NO. COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/kg) mg/L Q
TPH-Diesel Diesel Range Organ	nics D.079

Comments: The hydrocarbon pattern does not resemble diesel.

Oil Range Organics

MW

Page 1 of 1

TPH-Oil

NWTPH≒Dge 1 of 1

FORM I DRO NWTPH-Dg=

# ecology and environment, inc.

International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

#### **MEMORANDUM**

DATE:

May 28, 2007

TO:

Steve Hall, Project Manager, E & E, Seattle, Washington

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Organic Data Quality Assurance Review, Avery Landing Site,

Avery, Idaho

REF:

TDD: 07-03-0004

PAN: 002233.0193.01SF

The data quality assurance review of 1 waste, 13 soil, and 9 water samples collected from the Avery Landing site located in Avery, Idaho, has been completed. Analysis for Extended Diesel Range Total Petroleum Hydrocarbons (Ecology Method NWTPH-Dx) was performed by Laucks Testing Services, Seattle, Washington. The samples were numbered:

Water	07040111 07040140	07040136 07040135	07040137 07040141	07040138 07040142	07040139
Soil	07040102 07040114 07040124	07040105 07040116 07040127	07040106 07040119 07040129	07040108 07040120	07040110 07040122

Waste 07040131

#### **Data Qualifications:**

#### 1. Sample Holding Times: Acceptable.

The samples were maintained at  $4^{\circ}$ C ( $\pm 2^{\circ}$ C) except one cooler which was received at 7.2 °C; no action was taken based on this slight outlier. The samples were collected between April 16 and 20, 2007, extracted on April 24, 25, or May 16 (waste), 2007, and analyzed by May 17, 2007, therefore meeting QC criteria of less than 7 days between collection and extraction for water samples (14 days for soil samples) and less than 40 days between extraction and analysis. There are no holding times for waste samples.

#### 2. Initial Calibration: Acceptable.

Calculations were verified as correct. All correlation coefficients were > 0.995.

#### Continuing Calibration: Acceptable. 3.

Calculations were verified as correct. All percent differences (%Ds) were ≤ the laboratory control limits of 15%.

#### 4. Error Determination: Not Performed.

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

### 5. Blanks: Acceptable.

A method blank was analyzed for each extraction batch for each matrix and analysis system. Diesel- and motor oil-range TPHs were not detected in any blank.

### 6. System Monitoring Compounds (SMC): Satisfactory.

All recoveries of the SMCs were greater than 10% and within QC criteria except in diluted analyses of samples 07040140 (both SMCs with 0% recovery), 07040122 (terphenyl-d14 had a low recovery), and 07040119 (2-fluorobiphenyl had a low recovery). No action was taken based on these outliers due to dilutions.

### 7. Performance Evaluation Samples: Not Provided.

Performance evaluation samples were not provided to the laboratory.

### 8. Blank and Matrix Spikes and Duplicates: Acceptable.

Blank and matrix spike and duplicate results were within QC limits.

### 9. Quantitation and Quantitation Limits: Acceptable.

Sample concentrations were correctly calculated.

### 10. Laboratory Contact: Not Required.

No laboratory contact was required.

### 11. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan, the OSWER Directive "Quality Assurance/Quality Control Guidance for Removal Activities, Data Validation Procedures" (EPA/540/G-90/004) and the analytical method. Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

#### Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

	CTIENL	SAMPLE	NO.
Γ			
Ì	0	7040111	
Į			

Lab Name: Lau	cks Testing Laboratories,	Contract: N/A	
SDG No.: IDA02		Run Sequence: R017496	
Matrix: (SOIL/	WATER) Water	Lab Sample ID: IDA02-001	
Sample wt/vol:	1050.0 (g/mL) mL	Lab File ID: C507716.d	
% Moisture:	Decanted: (Y/N) N	Date Collected: 04/18/2007	
Extraction: (1	Type) SEPF	Date Extracted: 04/24/2007	
Concentrated E	Extract Volume: 1000.0 (uL)	Date Analyzed: 05/07/2007	
Injection Volu	ume: 2.0 (uL)	Dilution Factor: 1.0	
<del>-</del>	(Y/N) <u>N</u> pH:<2	Sulfur Cleanup: (Y/N) N	
CAS NO.	COMPOUND	CONCENTRATION UNITS: {ug/L or ug/kg} mg/L	, Ó
TPH-Diesel	Diesel Range Organics	0.048	IJ

Comments:

MW 5-2007

FORM I DRO

CLIENT	SAMPLE	NO.
0.5	7040136	
u	1040136	

Lab Name: Lau	cks Testing Laboratories,	Contract: N/A
SDG No.: IDA02		Run Sequence: R017496
Matrix: (SOTL/N	WATER) Water	Lab Sample ID: IDA02-002
Sample wt/vol:	1060.0 (g/mL) mL	Lab File ID: C507777.d
% Moisture:	Decanted: (Y/N) N	Date Collected: 04/21/2007
Extraction: (Ty	rpe) SEPF	Date Extracted: 04/24/2007
Concentrated Ex	tract Volume: 1000.0 (uL)	Date Analyzed: 05/09/2007
Injection Volum	ne: 2.0 (uL)	Dilution Factor: 5.0
GPC Cleanup: (Y	/N) N pH:<2	Sulfur Cleanup: (Y/N) N
CAS NO.	COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/kg) mg/L Q
TPH-Diesel	Diesel Range Organics	5.5
TPH-Oil	Oil Range Organics	3.6

Comments: The hydrocarbon pattern partially resembles a diesel and partially resembles an oil.

MW MW

CLIENT	SAMPLE	NO.
. 0	7040137	

Lab Name: Laucks Testing Labo	ratories,	Contract: N/A
SDG No.: IDA02		Run Sequence: R017496
Matrix: (SOIL/WATER) Water	) Water Lab Sample ID: IDA02-003	
Sample wt/vol: 990.0 (g/mL) mL		Lab File ID: C507773.d
% Moisture: Decanted	1: (Y/N) <u>N</u>	Date Collected: 04/21/2007
Extraction: (Type) SEPF		Date Extracted: 04/24/2007
Concentrated Extract Volume:	1000.0 (uL)	Date Analyzed: 05/09/2007
Injection Volume: 2.0	(uL) ·	Dilution Factor: 2.0
GPC Cleanup: (Y/N) N pi	I: <2	Sulfur Cleanup: (Y/N) N
CAS NO. COMPOUND		CONCENTRATION UNITS: Q (ug/L or ug/kg) mg/L Q
TPH-Diesel Diesel Range	Organics	0.78
TPH-Oil Oil Range Orga	enics	1.0

Comments: The hydrocarbon pattern partially resembles a diesel and partially resembles an oil.

MW SOLOT

CLIENT	SAMPLE	NO.
a-	7040138	

Lab Name: Laucks Testing Laboratories,	Contract: N/A		
SDG No.: IDA02	Run Sequence: R017496		
Matrix: (SOIL/WATER) Water	Lab Sample ID: IDA02-004		
Sample wt/vol: 940.0 (g/mL) mL	Lab File ID; C507775.d		
% Moisture: Decanted: (Y/N) N	Date Collected: 04/21/2007		
Extraction: (Type) SEPF	Date Extracted: 04/24/2007		
Concentrated Extract Volume: 1000.0 (uL)	Date Analyzed: 05/09/2007		
Injection Volume: 2.0 (uL)	Dilution Factor: 5.0		
GPC Cleanup: (Y/N) N pH: <2	Sulfur Cleanup: (Y/N) N		
CAS NO. COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/kg) mg/L Q		
TPH-Diesel Diesel Range Organics	3.9		
TPH-Oil Oil Range Organics	4.1		

Comments: The hydrocarbon pattern partially resembles a diesel and partially resembles an oil.

CLIENT	SAMPLE	NO.	
07040139			

Lab Name: Lau	cks Testing Laboratories,	Contract: N/A
SDG No.: IDA02		Run Sequence: R017496
Matrix: (SOIL/	WATER) Water	Lab Sample ID: IDA02-005
Sample wt/vol:	950.0 (g/mL) mL	Lab File ID: C507774.d
% Moisture:	Decanted: (Y/N) N	Date Collected: 04/21/2007
Extraction: (T	ype) SEPF	Date Extracted: 04/24/2007
Concentrated E	xtract Volume: 1000.0 (uL)	Date Analyzed: 05/09/2007
Injection Volu	me: 2.0 (uL)	Dilution Factor: 2.0
GPC Cleanup: (	Y/N) N pH; <2	Sulfur Cleanup: (Y/N) N
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) mg/L Q
TPH-Dissel	Diesel Range Organics	2.0
TPH-Oil	Oil Range Organics	0.78

Comments: The hydrocarbon pattern partially resembles a diesel and partially resembles an oil.

CLIENT	SAMPLE	NO.	
0	7040140		

Lab Name: Laucks Testing Laboratories	. Contract: N/A
SDG No.: IDA02	Run Sequence: R017495
Matrix: (SOIL/WATER) Water	Lab Sample ID: IDA02-006
Sample wt/vol: 950.0 (g/mL) mL	Lab File ID: C507755.d
% Moisture: Decanted: (Y/N)	N Date Collected: 04/21/2007
Extraction: (Type) SEPF	Date Extracted: 04/24/2007
Concentrated Extract Volume: 1000.0	(uL) Date Analyzed: 05/09/2007
Injection Volume: 2.0	(uL) Dilution Factor: 100.0
GPC Cleanup: (Y/N) N pH: <2	Sulfur Cleanup: (Y/N) N
CAS NO. COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/kg) mg/L Q
TPH-Diesel Diesel Range Organics	110
TPH-Oil Oil Range Organics	45

Comments: The hydrocarbon pattern partially resembles a diesel and partially resembles an oil. The surrogates have been diluted out.

CLIENT	SAMPLE	NO'.
ō	7040135	•

Lab Name: Lauc	cks Testing Laboratories,	Contract: N/A	<del> </del>
SDG No.: IDA02	SDG No.: IDA02 Run Sequence: R017496		, ·
Matrix: (SOIL/WATER) Water Lab Sample ID: IDA02-007			
Sample wt/vol: 970.0 (g/mL) mL Lab File ID: C507712.d		Lab File ID: C507712.d	
% Moisture;	Decanted: (Y/N) N	Date Collected: 04/21/2007	
Extraction: (Ty	pe) SEPF	Date Extracted: 04/24/2007	
Concentrated Ex	tract Volume: 1000.0 (uL)	Date Analyzed: 05/07/2007	
Injection Volum	ne: 2.0 (uL)	Dilution Factor: 1.0	
GPC Cleanup: (S	7/N) N pH:<2	Sulfur Cleanup: (Y/N) N	<del></del>
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) mg/L	Q
TPH-Diesel	Diesel Range Organics	0.083	
TPH-Oil	Oil Range Organics	0.21	Ū

Comments: The hydrocarbon pattern does not resemble diesel.

CLIENT	SAMPLE	NO.	
	5546643		
07040141			

Lab Name: Laucks Testing Laboratories, Contract: N/A		Contract: N/A		
SDG No.: IDA02		Run Seguence: R017496		
Matrix: (SOIL/WATER) Water		Lab Sample ID: IDA02-008		
Sample wt/vol:	1020.0 (g/mL) mL	Lab File ID: C507772.d		
% Moisture:	Decanted: (Y/N) N	Date Collected: 04/21/2007		
Extraction: (T)	/pe) SEPF	Date Extracted: 04/24/2007	<del></del>	
Concentrated Ex	ktract Volume: 1000.0 (uL)	Date Analyzed: 05/09/2007		
Injection Volum	ne: 2.0 (uL)	Dilution Factor: 2.0		
GPC Cleanup: ()	(/N) N pH:≤2	Sulfur Cleanup: (Y/N) N	<del></del>	
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) mg/L	Ó	
TPH-Diesel	Diesel Range Organics	1.3		

0.72

Comments: The hydrocarbon pattern partially resembles a diesel and partially resembles an oil.

Oil Range Organics

MW SHOT

CLIENT	SAMPLE	NO.
07040142		

Lab Name: Laucks Testing Laboratories, Contract: N/A		Contract: N/A	·····	
SDG No.: IDA02	· · · · · · · · · · · · · · · · · · ·	Run Sequence: R017496		
Matrix: (SOIL/WATER) Water Lab Sample		Lab Sample ID: IDA02-609	le ID; IDA02-009	
Sample wt/vol: 1000.0 (g/mL) mL Lab File ID: C507715.d		Lab File ID: C507715.d	·	
% Moisture: Decanted: (Y/N) N Date Collected: 64/21/200		Date Collected: 04/21/2007		
Extraction: (Type) SEPF Date E		Date Extracted: 04/24/2007	Date Extracted: 04/24/2007	
Concentrated E	xtract Volume: 1000.0 (uL)	Date Analyzed: 05/07/2007		
Injection Volu	me: 2.0 (uL)	Dilution Factor: 1.0		
GPC Cleanup: (	Y/N) N pH:<2	Sulfur Cleanup: (Y/N) N		
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) mg/L	Q	
TPH-Diesel	Diesel Range Organics	0.050	ט	
TPH-Oil	Oil Range Organics	0.26		

Comments: The hydrocarbon pattern does not resemble an oil.

CLIENT	SAMPLE	NO.
٥	7040102	

Lab Name: Laucks Testing Laboratories, Contract: N/A		Contract: N/A		
SDG No.: IDAO	2	Run Sequence: R017502		
Matrix: (SOIL/WATER) Soil		Lab Sample ID: IDA02-022		
Sample wt/vol:	: 10.0 (g/mL) gm	Lab File ID: C502710.d		
% Moisture: _	12.0 Decanted: (Y/N) N	Date Collected: 04/16/2007		
Extraction: (1	Type PFEX	Date Extracted: 04/25/2007		
Concentrated F	Extract Volume: 5000.0 (uL)	Date Analyzed: 05/02/2007		
Injection Volu	ume: 2.0 (uL)	Dilution Factor: 20.0		
GPC Cleanup:	(Y/N) N pH:	Sulfur Cleanup: (Y/N) N	·	
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) mg/Kg	Q	
TPH-Diesel	Diesel Range Organics	1500		
TPH-Oil	Oil Range Organics	12000		

Comments: The hydrocarbon pattern resembles an oil and does not resemble diesel.

MW Solo)

CLIENT	SAMPLE	NO.
٥	7040105	

Lab Name: Laucks Testing Laboratories,	Contract: N/A		
SDG No.: IDA02	Run Sequence: R017502		
Macrix: (SOIL/WATER) Soil	Lab Sample ID: IDA02-023		
Sample wt/vol: 10.0 (g/mL) sm	Lab File ID: C502711.d		
% Moisture; 29.0 Decanted: (Y/N) N	Date Collected: 04/17/2007		
Extraction: (Type) PFEX	Date Extracted: 04/25/2007		
Concentrated Extract Volume: 5000.0 (uL)	Date Analyzed: 05/02/2007		
Injection Volume: 2.0 (uL)	Dilution Factor: 10.0		
GPC Cleanup: (Y/N) N pH:	Sulfur Cleanup: (Y/N) N		
CAS NO. COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/kg) mg/Kg Q		
TPH-Diesel Diesel Range Organics	7200		
TPH-Oil Oil Range Organics	5200		

Comments: The hydrocarbon pattern partially resembles diesel and partially resembles an oil.

MW Shot

CLIENT	SAMPLE	NO.
. 0	7040106	

Lab Name: Lau	cks Testing Laboratories,	Contract: N/A	
SDG No.; IDA02		Run Sequence: R017502	
Matrix: (SOIL/	Matrix: (SOIL/WATER) Soil Lab Sample ID: IDA02-024		
Sample wt/vol:	Sample wt/vol; 10.0 (g/mL) gm Lab File ID; C507754.d		
% Moisture:	29.0 Decanted (Y/N) N	Date Collegted: 04/17/2007	L
Extraction: (T)	ype) PFEX	Date Extracted: 04/25/2007	
Concentrated E	ktract Volume: _5000.0 (uL)	Date Analyzed: 05/09/2007	
Injection Volu	ne: 2.0 (uL)	Dilution Factor: 1.0	
GPC Cleanup: (	Y/N) <u>N</u> pH:	Sulfur Cleanup: (Y/N) N	
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) mg/kg	Q
TPH-Diesel	Diesel Range Organics	40	
TPH-Oil	Oll Range Organics	140	ŭ

Comments: The hydrocarbon pattern does not resemble diesel.

MW SHO

CLIENT	SAMPLE	NO.
C	7040108	

•	·
Lab Name: Laucks Testing Laboratories,	Contract: N/A
SDG No.: IDA02	Run Sequence: R017502
Matrix: (SOIL/WATER) Soil	Lab Sample ID: IDA02-025
Sample wt/vol: 10.0 (g/mL) gm	Lab File ID: C502712.d
% Moisture: 12.0 Decanted: (Y/N) N	Date Collected: 04/17/2007
Extraction: (Type) PFEX	Date Extracted: 04/25/2007
Concentrated Extract Volume: 5000.0 (uL)	Date Analyzed: 05/02/2007
Injection Volume: 2.0 (uL)	Dilution Factor: 2.0
GPC Cleanup: (Y/N) N pH:	Sulfur Cleanup: (Y/N) N
CAS NO. COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/kg) mg/Kg Q
TPH-Diesel Diesel Range Organics	160
TPH-Oil Oil Range Organics	890

Comments: The hydrocarbon pattern resembles an oil and does not resemble diesel.

CLIENT	SAMPLE	NO.
. 0	7040110	

Lab Name: Lauch	s Testing Laboratories,	Contract: N/A		
SDG No.: IDA02		Run Sequence: R017502		
Matrix: (SOIL/W	TER) Soil	Lab Sample ID: IDA02-026		
Sample wt/vol:	10.0 (g/mL) gm	Lab File ID: C502773.d		
% Moisture: 22.0 Decanted: (Y/N) N		Date Collected: 04/18/2007		
Extraction: (Type) PFEX		Date Extracted: 04/25/2007		
Concentrated Extract Volume: 5000.0 (uL)		Date Analyzed: 05/04/2007		
Injection Volume: 2.0 (uL)		Dilution Factor: 10.0		
GPC Cleanup: (Y/	'N) <u>N</u> pH:	Sulfur Cleanup: (Y/N) N		
CAS NO.	COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/kg) mg/Kg Q		
TPH-Diesel	Diesel Range Organics	12000		
TPH-Oil	Oil Range Organics	2000		

Comments: The hydrocarbon pattern partially resembles diesel and partially resembles an oil.

CLIENT	SAMPLE	NO.
- 0	7040114	

Lab Name: Lat	ocks Testing Laboratories,	Contract: N/A	
SDG No.: IDA02		Run Sequence: R017502	
Matrix: (SOIL/WATER) Scil		Lab Sample ID: IDA02-028	
Sample wt/vol:	10.0 (g/mL) gm	Lab File ID: C502775.d	
% Moisture: 26.0 Decanted: (Y/N) N		Date Collected: 04/18/2007	
Extraction: (Type) PFEX		Date Extracted: 04/25/2007	
Concentrated Extract Volume: 5000.0 (uL)		Date Analyzed: 05/04/2007	
Injection Volume: 2.0 (uL)		Dilution Factor: 10.0	
GPC Cleanup: (	Y/N) N pH:	Sulfur Cleanup: (Y/N) N	
CAS NO.	COMPOUND	CONCENTRATION UNITS: Qug/L or ug/kg) mg/kg	
mmr: mi === 1	This age of Tomore Commission	1 5000	

Comments: The hydrocarbon pattern partially resembles diesel and partially resembles an oil.

3600

Oil Range Organics



CLIENT SAMPLE NO.

Lab Name: Lau	cks Testing Laboratories,	Contract: N/A		
SDG No.: IDA02		Run Sequence: R017502		
Matrix: (SOIL/	NATER) Soil	Lab Sample ID: IDA02-029		
Sample wt/vol:	10.0 (g/mL) gm	Lab File ID: C502721.d		
% Moisture: 15.0 Decanted: (Y/N) N		Date Collected: 04/18/2007		
Extraction: (Type) PFEX		Date Extracted: 04/25/2007		
Concentrated Extract Volume: 5000.0 (uL)		Date Analyzed: 05/02/2007	<u></u>	
Injection Volume: 2.0 (uL)		Dilution Factor: 4.0		
GPC Cleanup: (	Y/N) N PH:	Sulfur Cleanup: (Y/N) N		
CAS NO,	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) mg/Kg	Q	
TPH-Diesel	Diesel Range Organics	650.		
TPH-Oil	Oil Range Organics	2500		

Comments: The hydrocarbon pattern resembles an oil and does not resemble diesel.

CLIENT	SAMPLE NO.	
0	7040779	
07040113		

Lab Name: Lai	ucks Testing Laboratories,	Contract: N/A	
SDG No.: IDA02		Run Sequence: R017502	
Matrix: (SOIL,	/WATER) Soil	Leb Sample ID: IDA02-031	
Sample wt/vol	10.0 (g/mL) gm	Lab File ID: C502722.d	
-	23.0 Decanted: (Y/N) N	Date Collected: 04/18/2007	
Extraction: (Type) PFEX		Date Extracted: 04/25/2007	
Concentrated Extract Volume: 5000.0 (uL)		Date Analyzed: 05/02/2007	
Injection Volume: 2.0 (uL)		Dilution Factor: 20.0	
GPC Cleanup:	(Y/N) <u>N</u> pH:	Sulfur Cleanup: (Y/N) N	
CAS NO.	COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/kg) mg/Kg	
TPH-Diesel	Diesel Range Organics	17000	
TPH-Oil	Oil Range Organics	6700	

The hydrocarbon pattern partially resembles diesel and partially resembles Comments: an oil,

Oil Range Organics

TFH-Oil

CLIENT	SAMPLE	NO.
07040120		

Lab Name: Lauc	ks Testing Laboratories,	Contract: N/A	
SDG No.: IDA02		Run Sequence: R017502	
Matrix: (SOIL/W	MATER) Soil	Lab Sample ID: IDA02-032	
	10.6 (g/mL) gm	Lab File ID: C502723.d	
-	11.0 Decanted: (Y/N) N	Date Collected: 04/18/2007	
Extraction: (Type) PFEX		Date Extracted: 04/25/2007	
	tract Volume: 5000.0 (uL)	Date Analyzed: 05/02/2007	
Injection Volume: 2.0 (uL)		Dilution Factor: 10.0	
-	//N) <u>N</u> pH:	Sulfur Cleanup: (Y/N) N	
CAS NO.	COMPOUND	 CONCENTRATION UNITS: Q (ug/L or ug/kg) mg/Kg Q	
TPH-Diesel	Diesel Range Organics	3700	
TPH-Oil	Oil Range Organics	 3300	

Comments: The hydrocarbon pattern partially resembles diesel and partially resembles an oil.

MW 528-6)

CLIENT	SAMPLE	NO.
. 0	7040122	

Lab Name: <u>Lau</u>	cks Testing Laboratories,	Contract: N/A		
SDG No.: IDA02		Run Sequence: R017502		
Matrix: (SOIL/	WATER) Soil	Lab Sample ID: <u>IDA02-033</u>		
Sample wt/vol:	10.0 (g/mL) gm	Lab File ID: C502724.d		
% Moisture:	22.0 Decanted: (Y/N) N	Date Collected: 04/18/2007		
Extraction: (Type) PFEX		Date Extracted: 04/25/2007		
Concentrated E	Extract Volume: 5000.0 (uL)	Date Analyzed: 05/03/2007		
Injection Volume: 2.0 (uL)		Dilution Factor: 20.0		
GPC Cleanup: (	Y/N PH:	Sulfur Cleanup: (Y/N) N		
CAS NO.	COMPOUND	CONCENTRATION UNITS; Q (ug/L or ug/kg) mg/kg		
TPH-Diesel	Diesel Range Organics	13000		
TDW_Oil	Oil Range Organics	7000		

Comments: The hydrocarbon pattern partially resembles diesel and partially resembles an oil.

MW SZBOT

CLIENT	SAMPLE	NO.
	7040124	

•			
Lab Name: Laucks Testing Laboratories,	Contract: N/A		
SDG No.: IDA02	Run Sequence: R017502		
Matrix: (SOIL/WATER) Boil	Lab Sample ID: IDA02-034		
Sample wt/vol: 10.0 (g/mL) gm	Lab File ID: C502725.d		
% Moisture: 13.0 Decanted: (Y/N) N	Date Cóllected: 04/19/2007		
Extraction: (Type) PFEX	Date Extracted: 04/25/2007		
Concentrated Extract Volume: 5000.0 (uL)	Date Analyzed: 05/03/2007		
Injection Volume: 2.0 (uL)	Dilution Factor: 5.0		
GPC Cleanup: (Y/N) N pH:	Sulfur Cleanup: (Y/N) N		
CAS NO. COMPOUND	CONCENTRATION UNITS: Q (ug/L or ug/kg) mg/Kg		
TPH-Diesel Diesel Range Organics	3100		
TPH-Oil Oil Range Organics	1500		

Comments: The hydrocarbon pattern partially resembles diesel and partially resembles an oil.

MW SOS

CLIENT	SAMPLE	NO.
	7040127	

and the second s			· ·		
Lab Name: Laucks	Testing Laboratories,	Contract	:_N/A		
SDG No.: IDA02		Run Seque	ence: R017502	<del></del>	
Matrix: (SOIL/WAT)	ER) Soil	Lab Sample ID: IDA02-035			
Sample wt/vol: 10	(g/mL) <u>gm</u>	Lab File ID; C502731.d			
% Moisture:	21.0 Decanted: (Y/N) N	Date Collected: 04/19/2007			
Extraction: (Type	PFEX	Date Extracted: 04/25/2007			
Concentrated Extra	act Volume: 5000.0 (uL)	Date Ana	lyzed: <u>05/03/2007</u>		
Injection Volume:	2.0 (uL)	Dilution	Factor: 20.0	<del> </del>	
GPC Cleanup: (Y/N	) <u>N</u> pH:	Sulfur C	leanup: (Y/N) N		
CAS NO. C	DMPOUND		CONCENTRATION UNITS: (ug/L or ug/kg) mg/Kg	Q	
TPH-Diesel I	Diesel Range Organics		7800		
TRU-Oil (	11 Pance Ordanics		3100	l	

Comments: The hydrocarbon pattern partially resembles diesel and partially resembles an oil.

NWTPH-D

CLIENT	SAMPLE	NO.
Ō	7040129	

Lab Name: Laucks Te	sting Laboratories,	Contract: N/A			
SDG No : IDA02		Run Sequence: R017502			
Matrix: (SOIL/WATER)	Soil	Lab Sample ID: IDA02-03	6		
Sample wt/vol: 10.0	(g/mL) <u>gm</u>	Lab File ID: C502733.d			
% Moisture: 10.	O Decanted: (Y/N) N	Date Collected: 04/19/2	2007		
Extraction: (Type) _F	FEX	Date Extracted: 04/25/	2007		
Concentrated Extract	Volume: 5000.0 (uL)	Date Analyzed: 05/03/2	07		
Injection Volume: 2	.0 (uL)	Dilution Factor: 10.0			
GPC Cleanup: (Y/N)	ри:	Sulfur Cleanup: (Y/N) _	N		
CAS NO. COMPO	DUND	CONCENTRATION U	() 1		
TPH-Diesel Dies	el Range Organics	6600			
TPH-Oil Oil	Range Organics	1900			

Comments: The hydrocarbon pattern partially resembles diesel and partially resembles an oil.

My Sober

CLIENT SAMPLE NO. 07040131

	•		
Lab Name: <u>Lau</u>	cks Testing Laboratories,	Contract: N/A	· · · · · · · · · · · · · · · · · · ·
SDG No.: IDA02		Run Sequence: R017667	
Matrix: (SOIL/	WATER) Soil	Lab Sample ID: IDA02-037	<del>, , , , , , , , , , , , , , , , , , , </del>
Sample wt/vol:	0.13 (g/mL) gm	Lab File ID: C516729.d	
% Moisture:	0.0 Decanted: (Y/N) N	Date Collected: 04/20/2007	<del></del>
Extraction: (T	ype) WASTE	Date Extracted: 05/16/2007	
Concentrated E	xtract Volume: 10000.0(uL)	Date Analyzed: 05/17/2007	
Injection Volu	me: <u>2.0 (uL</u> )	Dilution Factor: 10.0	
-	Y/N) <u>N</u> рн:	Sulfur Cleanup: (Y/N) N	
CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/kg) mg/kg	Q
TPH-Diesel	Diesel Range Organics	1100000	
TPH-Oil	Oil Range Organics	260000	

Comments: The hydrocarbon pattern partially resembles diesel and partially resembles an oil.

# ecology and environment, inc.



International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

### MEMORANDUM

DATE:

May 26, 2007

TO:

Steve Hall, Project Manager, E & E, Seattle, Washington

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Inorganic Data Quality Assurance Review, Avery Landing Site,

Avery, Idaho

REF:

TDD: 07-03-0004

PAN: 002233.0193.01SF

The data quality assurance review of 4 water samples collected from the Avery Landing site in Avery, Idaho, has been completed. Target Analyte List (TAL) metals analyses (EPA Methods 6010, 6020, and 7471) were performed by Laucks Testing Services, Seattle, Washington.

The samples were numbered:

07040132

07040133

07040134

07040143

### Data Qualifications:

### 1. Sample Holding Times: Acceptable.

All liquid samples were preserved to a pH < 2. The samples were maintained at  $4^{\circ}$ C ( $\pm$   $2^{\circ}$ C). The samples were collected on April 20, 2007, and were analyzed by April 26, 2007, therefore meeting QC criteria of less than 6 months between collection, extraction, and analysis (28 days for mercury).

### 2. Initial and Continuing Calibration: Satisfactory.

A minimum of one calibration standard and a blank were analyzed at the beginning of the ICP analysis sequence and after every 10 samples. No results were greater than 110% of the highest calibration standard. All ICP recoveries were within the QC limits of 90% to 110% except beryllium and cadmium high recoveries associated with all samples. All beryllium and cadmium positive results were qualified as estimated quantities (J). All AA recoveries were within QC limits of 80% to 120%.

### 3. Blanks: Satisfactory.

A preparation blank was analyzed for each 20 samples or per matrix per concentration level. Blanks were analyzed after each Initial or Continuing Calibration Verification. The following elements were detected in the applicable calibration and/or preparation blanks and resulted in sample qualifications:

Blank	Element	Concentration (ug/L)
Initial Calibration Blank (ICB)	Antimony	0.427
Continuing Calibration Blank (CCB) 9	Antimony	0.0689
	Lead	-0.101
	Selenium	-0.111
Continuing Calibration Blank (CCB) 10	Antimony	0.149
	Lead	-0.118
	Thallium	0.0969
Continuing Calibration Blank (CCB) 11	Antimony	0.136
	Lead	-0.131
	Thallium	0.102

Associated sample results were qualified as not detected (U) if the sample result was less than five times the positive blank concentration. Associated sample results were qualified as estimated quantities (J or UJ) if the sample result was less than five times the absolute value of the negative blank concentration.

### 4. ICP Interference Check Sample: Acceptable, Satisfactory, or Not Acceptable.

An Interference Check Sample (ICS) was analyzed at the beginning and end of each sequence or at least twice every 8 hours, whichever was more frequent. All ICS (solution AB) results were within QC limits of 80% - 120% recovery.

### 5. Precision and Bias Determination: Not Performed.

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

### 6. Performance Evaluation Sample Analysis: Not Provided.

Performance evaluation samples were not provided to the laboratory.

### 7. ICP Serial Dilution: Acceptable, Satisfactory, or Not Acceptable.

A serial dilution analysis was performed per matrix per concentration or per sample delivery group, whichever was more frequent. All serial dilution results were within QC limits except copper, magnesium, iron, and zinc. Associated sample results were qualified as estimated quantities (J or UJ).

### 8. Matrix Spike Analysis: Acceptable.

A matrix spike analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. Spike and spike duplicate recoveries were within the QC limits.

### 9. Duplicate Analysis: Satisfactory.

A laboratory duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits except barium. Associated sample results were qualified as estimated quantities (J or UJ).

### 10. Laboratory Control Sample Analysis: Acceptable.

A Laboratory Control Sample (LCS) was analyzed per SDG per matrix. All LCS results were within the established control limits.

### 11. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

### **Data Qualifiers and Definitions**

- J The associated numerical value is an estimated quantity because the reported concentrations were less than the sample detection limits but greater than the instrument detection limits or because quality control criteria limits were not met.
- U The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UI The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

### -1-INORGANIC ANALYSES DATA SHEET

	4		. 1	<del></del>		SAMPLE	, OM
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emell de.	Laucks Laborate	ories.	Contr	act:			Min James
Lab Code: _	LAUCKS		SDG 1	VO.:	IDA01		
Matrix (so)	1/water): Water	r	Lab S	lample	E ID:	IDA01-	001
Level (low/	med): LOW		Date	жесеі	ived: .	,,	
Solids:	·						
	Concentra	ation Units :	ਪੁਰ	<u>/L</u>			·
CAS No.	Analyte	Concentr		c	Q	М	Run Seq.
7429-90-5	Aluminum		32.0	Ü		M	R017218
7440-36-0	Antimony		0.203	X.		М	R017218
7440-38-2	Arsenic		0.209	J.		M	R017218
7440-39-3	Barium		4.76	J	phi n	М	R017218
7440-41-7	Beryllium		0.0430	Ū		М	R017218
7440-43-9	Cadinium		0.0940	ับ		М	R017218
7440-70-2	Calcium		8270			М	R017218
7440-47-3	Chromium		0.364	X, m		М	R017218
7440-48-4	Cobali		0,0290	J		М	R017218
7440-50-8	Соррег		0.520	לים	Fam	M	R017218
7439-89-6	lron		53.2	1		M	R017218
7439-92-1	Lead		0.0750	G		M_	R017218
7439-95-4	Magnesium		1830	1	PAN	M	R017218
7439-96-5	Manganese		1.07	J	<u></u>	М	R017218
7439-97-6	Мегситу		0.018	<u>u</u>	ļ.,	CV	R017123
7440-02-0	Nickel		0.364	X	U	М	R017218
7440-09-7	Potassium		455			M_	R017218
7782-49-2	Selenium		0.110	บั	<del></del>	M	R017218
7440-22-4	Silver		0.0850	ט		M	R017218
7440-23-5	Sodium		3030	_	ļ	<u>M</u>	R017218
7440-28-0	Thallium		0.0440	U		М	R017218
7440-62-2	Vanadium		0.173	1/10	<u> </u>	M	R017218
7440-66-6	Zinc		9.55	O <sub>1</sub>	Legy	М	R017218
: Before:	Colorless	Clarity Before:	Clear		•	ture:	
After:	Colorless	Clarity After:	<u>Clear</u>	<del></del>	Art	ifacts:	: No
ent							
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MW 5-2607

SW-846

Page 1 of 1

Form I - IN

MET-4

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Lab Name:	Laucks Laborato	ries	Cont	ract:	-		
Lab Code: _	LAUCKS		SDG :	No.:	IDA01		
Matrix (soi	1/water): <u>Water</u>		Lab .	Sampl	E ID:	IDA01-	002
Level (low/	med): LOW		Date	Rece:	ived:	04/23/	2007
% Solids:		ion Units :		1/L	_		
CAS No.	Analyte	Concentr	ation	C	Q	М	Run Seg.
7429-90-5	Aluminum		32.0	υ	1	M	R017218
7440-36-0	Antimony	. ,	0.0903	/ PV	U	М	R017218
7440-38-2	Arsenic		0.248	j		М	R017218
7440-39-3	Barium		5.11	Ť	Flor	М	R017218
7440-41-7	Beryllium		0.0430	U		М	R017218
7440-43-9	Cadmium		0.0940	υ		M	R017218
7440-70-2	Calcium		8700			M	R017218
7440-47-3	Chromium		0,326	Kar	U	М	R017218
7440-48-4	Cobalt	i ·	0.0327	J		М	R017218
7440-50-8	Соррег		0.520	υJ	7 E	М	R017218
7439-89-6	Irop		53.6	1		М	R017218
7439-92-1	Lead		0.0750			М	R017218
7439-95-4	Magnesium		1930		Env	M	R017218
7439-96-5	Мапдапеѕе		1.31		U"	M	R017218
7439-97-6	Mercury		810.0	UJ		CV	R017123
7440-62-0	Nicke)		0.320	140	U	М	R017218
7440-09-7	Potassium		488			М	R017218
7782-49-2	Selenium		0.110	U		М	R017218
7440-22-4	Silver		0.0850	บ		M	R017218
7440-23-5	Sodium		1020			M	R017218
7440-28-0	Thallium		0.0440	บ	···	M	R017218
7440-62-2	Vanadium		0.231	28/	<u>U</u>	M	R017218
7440-66-6	Zinc	·	1.80	ט ט	Zna	М	R017218
: Before: (	Colorless C	larity Before:	Clear		Text	ure:	
After: _		larity After:	Clear			facts:	No
ent		•					

9MV 5-269

SW-846

#### \_1 \_

						07040	)134
Lab Name: _	Laucks Laborator	ies	. Cont	ract:			
Lab Code: _	LAUCKS		SDG	No.:	IDAOI		
Matrix (soi	.1/water): Water	·	Lab	Sampl	e ID:	IDA01	-003
Level (low/	med): LOW		Date	Rece	ived:	04/23	/2007
% Solids:	Concentrat	ion Units :	120	<del></del> /x.			
CAS No	Analyte	Concent:		C	Q	М	Run Seq.
7429-90-5	Alumimum		32.0	υ		3M	R017218
7440-36-0	Antimony		0.0560	ย		М	R017218
7440-38-2	Argenic		0.296	J	~/	М	R017218
7440-39-3	Barium		4.71	7	AM	М	R017218
7440-41-7	Beryllium		0.0430	U	<del>- 2 (1 3.1) =</del>	М	R017218
7440-43-9	Cadmium		0.0940	U		М	R017218
7440-70-2	Calcium	-	7920			M	R017218
7440-47-3	Chromium		0.263	سالد	Ü	М	R017218
7440-48-4	Cobalt		0.0280	Ü		М	R017216
7440-50-8	Copper		0.520	Ūσ	Ém	М	R017218
7439-89-6	lron		48.7	J		М	R017218
7439-92-1	Lead		0,0750	υĮ		М	R017218
7439-95-4	Magnesium		1770	7	Æ <sub>m</sub> i	M	R017218
7439- <del>9</del> 6-5	Manganese		1.37	Ţ		M	R017218
7439-97-6	Mercury		0,018	บไ		C∆	R017123
7440-02-0	Nickel		0.282	/A	()	M	R017218
7440-09-7	Potassium		431			M	R017218
7782-49-2	Selenium		0.110	υ;J	-	M	R017218
7440-22-4	Silver	·	0.0850	υ		М	R017218
7440-23-5	Sodium		971	,		M,	R017218
7440-28-0	Thallium		0.0440	υ		М	R017218
7440-62-2	Vanadium		0.342	An	U	М	R017218
7440-66-6	Zinc		2.48	AN	JEMAN	М	R017218
		arity Before: arity After:	Clear	,	Text Arti	ure: facts:	No
nt							

MW TO MET-6

## -1-

•			. [			SAMPLE	
	•	•				07040	143
Lab Name: _	Laucks Laborator	les	Cont	ract:			
Lab Code: _	LAUCKS		SDG :	No.:	IDAD1		· · ·
Matrix (soi	.l/water): Water		Lab	Sampl	e ID:	IDAG1.	-004
Level /low/	med): LOW	•	net e	Pere	ived:	04/23/	/2007
Deser ITOM	med).	<del></del>	Date	1000	24,4004,	·	
k Solids:	·		•				
	Concentrati	ion Units :	iic	ı/L	<del>-</del>	· · · · ·	
CAS No.	Analyte	Concentr	ation	c ·	Q	M	Run Seq.
7429-90-5	Aluminum		32.0	U		М	R017218
7440-36-0	Antimony		0.0574	AN	U	М	R017218
7440-38-2	Arsenic		1.06			М.	R017218
7440-39-3	Barium		21.1	7	Fare	М	R017218
7440-41-7	Beryllium		0.0430	U	,	М	R017218
7440-43-9	Cadmium		0.0940	บ		M	R017218
7 <del>44</del> 0- <b>70</b> -2	Calcium		46600			M	R017218
7440-47-3	Chromium		0.763	ÀM	<u> </u>	М	R017218
7440-48-4	Cobalt		0,0637	3		M	R017218
7440-50-8	Соррег		1.41	J	Fin	M	R017218
7439-89-6	Iron		141	ر		M	R017218
7439-92-1	Lead .		0.0750	บไ		М	R017218
7439-95-4	Magnesium		13200		AW	M.	R017218
7439-96-5	Manganese		2.87	J		М	R017218
7439-97-6	Mercury		0.018	UJ		CV	R017123
7440-02-0	Nickel		1.50	····		M·	R017218
7440-09-7	Potassium		1510			M	R017218
7782-49-2	Selenium		0.110	บ		М	R017218
7440-22-4	Silver		0.0850	ַט		М	R017218
7440-23-5	Sodium		2860			M	R017218
7440-28-0	Thallium		0.0440	U	4.	M	R017218
7440-62-2	Vanadium		0.190	Au.	()	M	R017218
7440-66-6	Zinc		6.44	X <sub>P</sub>	UJE,m	M	R017218
Before: _	Colorless Cl	arity Before:	Clear		Text	ure:	
After: _	Colorless Cl	arity After:	Clear		Arti	facts:	No
at							<del> </del>

MW SUPP MET-7



International Specialists in the Environment

720 Third Avenue, Suite 1700, Seattle, WA 98104 Tel: (206) 624-9537, Fax: (206) 621-9832

#### **MEMORANDUM**

DATE:

May 28, 2007

TO:

Steve Hall, Project Manager, E & E, Seattle, Washington

FROM:

Mark Woodke, START-3 Chemist, E & E, Seattle, Washington

SUBJ:

Inorganic Data Quality Assurance Review, Avery Landing Site,

Avery, Idaho

REF:

TDD: 07-03-0004

PAN: 002233.0193.01SF

The data quality assurance review of 1 waste, 14 soil, and 9 water samples collected from the Avery Landing site in Avery, Idaho, has been completed. Target Analyte List (TAL) metals analyses (EPA Methods 6010, 6020, and 7471) were performed by Laucks Testing Services, Seattle, Washington.

Water	The samples we 07040111 07040140	re numbered: 07040136 07040135	07040137 07040141	07040138 07040142	07040139
Soil	07040102 07040113 07040122	07040105 07040116 07040124	07040106 07040117 07040127	07040108 07040119 07040129	07040110 07040120

Waste 07040131

# Data Qualifications:

# 1. Sample Holding Times: Acceptable.

All water samples were preserved to a pH < 2. The samples were maintained at  $4^{\circ}$ C ( $\pm$   $2^{\circ}$ C) except one cooler which was received at 7.2 °C; no action was taken based on this slight outlier. The samples were collected on April 20, 2007, and were analyzed by May 15, 2007, therefore meeting QC criteria of less than 6 months between collection, extraction, and analysis (28 days for mercury). There are no holding times for waste samples.

# 2. Initial and Continuing Calibration: Satisfactory.

A minimum of one calibration standard and a blank were analyzed at the beginning of the ICP analysis sequence and after every 10 samples. No results were greater than 110% of the highest calibration standard. All ICP recoveries were within the QC limits of 90% to 110% except beryllium with high recoveries in continuing calibration verifications (CCVs) 4 through 11 (sequence R017284) and lead in CCV 4 (sequence R017284); associated positive sample results were qualified as estimated quantities (J). All AA recoveries were within QC limits of 80% to 120%.

#### 3. Blanks: Satisfactory.

A preparation blank was analyzed for each 20 samples or per matrix per concentration level. Blanks were analyzed after each Initial or Continuing Calibration Verification. The following elements were detected in the applicable calibration and/or preparation blanks and resulted in sample qualifications:

Batch R017284 (Water) Blank	Element	Concentration (ug/L)
Initial Calibration Blank (ICB)	Antimony	0.423
ICB	Selenium	0.163
Continuing Calibration Blank (CCB) 6	Thallium	-0.0796
CCB7	Thallium	-0.0809
Preparation Blank (PB)	Antimony	-0.0593
PB	Calcium	98.3
PB	Chromium	0.249
PB	Selenium	-0.114
PB	Thallium	-0.0966
РВ	Mercury	-0.044

Batch R017339 (Soil) Blank	Element	Concentration (ug/L)
Initial Calibration Blank	Antimony	0.5
Preparation Blank	Mercury	-0.044

Associated sample results were qualified as not detected (U) if the sample result was less than five times the positive blank concentration. Associated sample results were qualified as estimated quantities (J or UJ) if the sample result was less than five times the absolute value of the negative blank concentration.

# 4. ICP Interference Check Sample: Acceptable.

An Interference Check Sample (ICS) was analyzed at the beginning and end of each sequence or at least twice every 8 hours, whichever was more frequent. All ICS (solution AB) results were within QC limits of 80% - 120% recovery.

#### 5. Precision and Bias Determination: Not Performed.

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

#### 6. Performance Evaluation Sample Analysis: Not Provided.

Performance evaluation samples were not provided to the laboratory.

#### 7. ICP Serial Dilution: Satisfactory.

A serial dilution analysis was performed per matrix per concentration or per sample delivery group, whichever was more frequent. All serial dilution results were within QC limits except magnesium, sodium, and zinc in the water analysis and cadmium and manganese in the soil analysis. Associated sample results were qualified as estimated quantities (J or UJ).

## 8. Matrix Spike Analysis: Satisfactory.

A matrix spike analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. Spike and spike duplicate recoveries were within the QC limits except antimony and potassium (low recoveries), arsenic and calcium (high recoveries), and magnesium (0 % recovery) in the soil spikes. Sample results associated with the low recovery outliers were qualified as estimated quantities (J or UJ). Positive sample results associated with the high recovery outliers were qualified as estimated quantities (J). Sample results associated with the 0% recovery outlier were qualified as estimated quantities (J for positive results) or rejected (R for sample quantitation limits).

# 9. Duplicate Analysis: Satisfactory.

A laboratory duplicate analysis was performed per SDG or per matrix per concentration level, whichever was more frequent. All duplicate results were within QC limits except antimony in the soil duplicate analysis. Associated sample results were qualified as estimated quantities (J or UJ).

# 10. Laboratory Control Sample Analysis: Acceptable.

A Laboratory Control Sample (LCS) was analyzed per SDG per matrix. All LCS results were within the established control limits.

## 11. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical methods, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

#### Data Qualifiers and Definitions

- J The associated numerical value is an estimated quantity because the reported concentrations were less than the sample detection limits but greater than the instrument detection limits or because quality control criteria limits were not met.
- U The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UI The material was analyzed for, but not detected. The reported detection limit is estimated because quality control criteria were not met.

# SW-846 -1-DRGANIC ANALYSES DATA SHEET

• • • • • • • • • • • • • • • • • • •	Laucks Laborato	ries Co	tract:			
	• • •					
Gab Code: _	LAUCKS	SD	No.:	IDAOS		
Mattrix (sni	l/water): <u>Water</u>	Lal	Sampl	e ID:	IDA02-	001
			e Rece		04/23/	<b>2007</b>
Level (low/	med): LOW :	Da	e Kece	TAGU:		
Solids:	<del> </del>	•		;		
	Concentrat	ion Units :	uq/L	<del></del>		· · · · · · · · · · · · · · · · · · ·
CAS No.	Analyte	Concentration	`c	Q	M	Run Seg.
7429-90-5	Aluminum	32	0 U		M	R017284
7440-36-0	Antimony	0.62	6 /m	U	М	R017284
7440-38-2	Arsenic	0.10	0 U		M .	R017284
7440-39-3	Barium	0.40	0 U		М	R017284
7440-41-7	Beryllium	0.045	0 U	<u> </u>	M	R017284
7440-43-9	Cadmium	0.094	0 U		М	R017284
7440-70-2	Calcium	. 1:			M	R017284
7440-47-3	Chromium	0.50	9 1/1	<u> </u>	M	R017284
7440-48-4	Cobalt	0,028	0 U		M	R01.7284
7440-50-8	Соррег	0.53	ט ס		M	R017284
7439-89-6	Iron	28	<del></del>	-	M	R017284
7439-92-1	Lead	0.07	0 U	<u> </u>	М	R017284
7439-95-4	Magnesium	- 4.		1 Em	1	R017284
7439-96-5	Manganese	0.40			М	R017284
7439-97-6	· Mercury	0.0		<u> </u>	CV	R017124
7440-02-0	Niokel	0.13		<del> </del>	<u>M</u>	R017284
7440-09-7	Potassium	11	<del></del>	1 100	M	R017284
7782-49-2	Selenium	0.2	44-	100	<u> M</u>	R017284
7440-22-4	Silver	0.08			M	R017284
7440-23-5	Sodium		)3	* XW	M	R017284
7440-28-0	Thalljun	0.04		<del> </del>	M	R017284
7440-62-2	Vanadium	0.1		1	M	R017284
7440-66-6	Zinc	1.	37 J	<u> Au</u>	М	R017284
Before:	Colorless (	Clarity Before: Clear	<u>: .</u>	Tex	ture:	4
After: .	Colorless (	Clarity After: <u>Clea</u>	<u> </u>	Art:	ifacts:	No
						•

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Form I - IN

# SW-846 -1-

Lab Name: _	Laucks Laborato	ries	Cont	ract:			
Lab Code: _	LAUCKS		. SDG	No.:	IDA02		· · · · · · · · · · · · · · · · · · ·
Matrix (soi	il/water): <u>Water</u>		Lab .	Sample	ID:	IDA02-	-002
Level (low)	/med): LOW		Date	Recei	.ved:	04/23/	<sup>2007</sup>
% Solids:	Concentrat	ion Units :	uc	1/L			
CAS No.	Analyte	Concent:	ration	c	Q	М	Run Seq.
7429-90-5	Aluminum		2050	j		М	R017284
7440-36-0	Antimony		0.537	ÁN	U	M	RD17284
7440-38-2	Arsenic		88.6			M.	R017284
7440-39-3	Barium		.61.1		•	М	R017284
7440-41-7	Beryllium		0.106	J		M	R017284
7440-43-9	Cadmium		0.142	J		M	R017284
7440-70-2	Calcium		56600			M	R017284
7440-47-3	Chronium		3.91	•		M	R017284
7 <del>440-48-4</del>	Cobalt		6.15		_	M	R017284
7440-50-8	Copper		8.43			M	R017284
7439-89-б	lron		26100			M	R017284
7439-92-1	Lead	•	2.17			M.	R017284
7439-95-4	Magnesium		8280		<u>a</u>	· M	R0172B4
7439-96-5	Manganese		3300			M	R017284
7439-97-6	Mercury		0.018	UT		CV	R017324
7440-02-0	Nickel		6.05			·M	R017284
<b>7440-09-</b> 7	Potassium		2950			M	R017284
7782-49-2	Selenium		0,289	AU.	T	М	R017284
7440-22-4	·· Silver		0.0850	U		M	R017284
7440-23-5	Sodium		3330	3	£	M	R017284
7 <del>44</del> 0-28-0	Thallium		0.0440	UJ		M	R017284
7440-62-2	Vanadium		5.41			M	R017284
7440-66-6	Zinc		7.68	j	F 340	М	R017284
Before: _	Brown C	larity Before:	Clear	·		:ure:	
After: _	<u>Colorless</u> C	arity After:	Clear		Arti	.faċts:	No

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Form I - IN

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TNORGENTO ANALYSES DATA SHEET

•		т-			SAMPLE	2101
		, market	•		07040	137
Lab Name:	Laucks Laboratories	. L Cont:	ract:			
		EDO:	мт	IDA02	•	
Lab Code: _	LAUCKS		No.;	-		
Matrix (soi	l/water): Water	Lab :	sample	e ID:	IDA02-	003
	ned): <u>LOW</u>	Date	Rece	ived:	04/23/	2007
Teast (TOA)	med): <del>won</del>	- 54,55		~		
% Solids: ,						
	· Concentration T	nits: uc	<u>/L</u>			
CAS No.	Analyte	Concentration	С	Q	M	Run Seq.
7429-90-5	Aluminum	74.9		103	M	R017284
7440-36-0	Antimony	0.219	M	W)	M	R017284
7440-38-2	Arsenic	30,7			M	R017284
.7440-39-3	Barium	84.4	•		M	R017284
7440-41-7	Beryllium	0.0430	U		M	R017284
7440-43-9	Cadmium	0.0940	U		M	R017284
7440-70-2	Calcium	59400	- 27		М	R017284
7440-47-3	Chromium	0,502	M		M	R017284
7440-48-4	Cobalt	12.9			M	R017284
7440-50-8	Соррег	0.520	U		M	R017284
7439-89-6	Iron	30800			M	R017284
7439-92-1	Lead	0,105	J		М	R017284
7439-95-4	Magnesium	7660	$\supset$	1	M	R017284
7439-96 <b>-</b> 5	Manganese	5510			M	R017284
7439-97-6	Метсшу	0.018	UJ		CV	R017124
7440-()2-0	Nickel	5.80			M	R017284
7440-09-7	Potassium	3150			M	R017284
7782-49-2	Selenium	0,123	An	1021	M	R017284
7440-22-4	Silver	0.0850	Ü		M	R017284
7440-23-5	Sodium	2150	\ <u>\</u>	]_#	M	R017284
7440-28-0	Thellium	0.0440	n)	<del>                                     </del>	M	R017284
7440-62-2	Vanadium	0.87)	J		M	R017284
7440-66-6	Zinc	4.48	J	<u> </u>	M	R017284
				MAN		
Before:	<u>Colorless</u> Clarit	y Before: <u>Clear</u>	<del>,</del>	Tex	ture:	
r After: _	Colorless Clarit	y After: <u>Clear</u>		Art	ifacts:	No
ent	·		<del></del>			
				<del></del>		· · · · · · · · · · · · · · · · · · ·

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Form I - II

SW-846

ME 1-7

# SW-846 -1-

#### THORGANTO ANALYSES DATA SHEET

	Laucks Laborator		tract:	777.00		
Lab Code: _	LAUCKS			IDA02		
Matrix (soi	l/water): <u>Water</u>	Lab	Sampl	e ID:	IDA02	-004
Terrel (1est/	med): LOW	Dat	e Rece	ived:	04/23	/2007
	med)					•
% Solids:						
	Concentrati	lon Units: 1	nq/L T		1	1
CAS No.	Analyte	Concentration	C	Ď	М	Run Seq.
7429-90-5	Aluminun	121			M	R017284
7440-36-0	Antimony	0,452	1	U	M	R017284
7440-38-2	Arsenic	13.7			М	R017284
7440-39-3	Barium '	113			.M	RD17284
7440-41-7	Beryllium	0.0430	Ŭ		M	R017284
7440-43-9	Cadmium	0.0940	U		M	R017284
7440-70-2	Calcium	82300			M	R017284
7440-47-3	Chromium	0.465	1/A/V		M	R017284
7440-48-4	Cobalt	3.39			M	R017284
7440-50-8	Copper	0:689	1		M	R017284
7439-89-6	Iron	31300			М	R017284
7439-92-1	Lead	0.615			М	R017284
7439-95-4	Magnesium	14000	1	1	M	RÓ17284
7439-96-5	Manganese	3430			М	R017284
7439-97-6	Mercury	0.018	U5		CV	R017124
7440-02-0	Nickel	3.51			M	R017284
7440-09-7	Potassium	41.60			M	R017284
7782-49-2	Selenium	6.110	υJ	_	M	R017284
7440-22 <del>-4</del>	Silver	0.0850			M	R017284
7440-23-5	Sodium	4360	1	<u> </u>	M	R017284
7440-28-0.	Thallium	0,0440	u)		M	R017284
7440-62-2	Vanadium	. 0.668	J		M	R017284
7440-66-6	Zinc	8.0.8	J	<b>P</b>	М	R017284
				MAY		
Before:	Colorless Cl	arity Before: <u>Clear</u>		Text	ure:	-
•					ifacts:	No

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Form I - IN

SW-846

### -1-INORGANIC ANALYSES DATA SHEET

,	Laucks Laborator		ana :	No.:	IDA02		
ab Code: _	, .						
atrix (soi	l/water); Water		Lab .	Sampl	e JD:	IDA02	-005
evel (low/	med): LOW		Date	Rece	ived:	04/23/	/2007
Solids:	<del></del>		•				
	Concentrat	ion Units :	<u> 110</u>	<u> </u>			
CAS No.	Analyte	Concenti	ration	C	Ģ	М	Run Seq.
7429-90-5	Aluminum		634			M	R017284
7440-36-0	Antimony		0.0949	7h	UST	M	R017284
7440-38-2	Arsenic		. 51,4			M	·R017284
7440-39-3	Barium	•	72.1			M	R017284
7440-41-7	Beryllium		0.0430	U		M	R017284
7440-43-9	Cadmium		0.0940	บ		M	R017284
1440-70-2	Calcium		44300			M	R017284
440-47-3	Chromiun		1.46			M	R017284
440-48-4	Cobalt		1.24			M	R017284
440-50-8	Copper		2,35			M	R017284
439-89-6	Iron		23000			M	R017284
439-92-1	Lead		0.583	j i		M	R017284
439-95-4	Magnesium		7760	J	直	M	R017284
439-96-5	Manganese		2980			M.	R017284
439-97-6	Метситу		810.0	עט		CV	R017124
440-02-0	Nickel		2,53			M.	R017284
440-09-7	Potessium		2070		6	M	R017284
782-49-2	Selenium		0.268	An	W	M	R017284
440-22-4	Silver		0.0850	ַ ע		M_	R017284
440-23-5	Sodium		2670	5	<u> </u>	M	R017284
440-28-0	Thallium		0.0440	υÌ		M	R017284
440-62-2	Vanadium		1.71	J		M	R017284
440-66-6	Zinc		7.94	J	耳	M	R017284
Dation	Oplawianc (T	arity Before:	Clear		Text	oure:	•
-		•		-			No
After: _	Colorless Cl	arity After:	Clear		_ Arti	facts:	No

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Form I - IN

MW

SW-846

# · SW-846

### -1-INORGANIC ANALYSES DATA SHEET

Lab Name: _	Laucks Laborato	ries	Cont	ract:			
Lab Code: _	LAUCKS		SDG	No.:	IDAO2		
Matrix (soi	1/water): Water		Lab	Sample	ID:	IDA02	-006
Level (low/	med): LOW		Date	Recei	ved:	04/23/	/2007
% Solids:							
	Concentrat	ion Units :	uc	I/L			
CAS No	Analyte	Concentr	ation	C	Q.	M	Run Seq.
7429-90-5	Aluminum		32200			М	R017284
7440-36-0	Antimony		1.87	U		M	R017284
7440-38-2	Arsenic		58.6	-•		M	R017284
7440-39-3	Barium		305			М	R017284
7440-41-7	Beryllium		1.84	J		М	R017284
7440-43-9	Cadmium '		1.07			М	R017284
7440-70-2	Calcium		67300			M.	R017284
7440-47-3	Chromium		35.6			М	R017284
7440-48-4	Cobalt		22.9			М	R017284
7440-50-8	Соррег		132			М	RD17284
7439-89-6	Iron		80500			M	R017284
7439-92-1	Lead		39.8			M	R017284
7439-95-4	Magnesium		26400	$\Delta$	Ė	М	R017284
7439-96-5	Manganese		3920		·	M	R017284
7439-97-6	Mercury		0.018	עע		cv	R017124
7440-02-0	Nickel		37.8			М	R017284
7440-09-7	Potassium		8130			M	R017284
7782-49-2	Selenium		1.18			M	R017284
7440-22-4	Silver		0.532	1		M	R017284
7440-23-5	Sodium		5350	1	<u> </u>	М	R017264
7440-28-0	Thallium		0.356	J		M	R017284
7440-62-2	Vanadium		53.2			М	R017284
7440-66-6	Zinc		68.3	J1	- WV	M	R017284
Before:	Brown Cl	arity Before:	Cloudy	,	•	ure;	
-		arity After:	Cloudy		· .	ifacts:	No
wiret: *	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	the strategy of the strategy of				,_,,	, 2. 2

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24-246

# INORGANIC ANALYSES DATA SHEET

Lab Name:	Laucks Laborator	ies c	ontract:	<u></u>		
Lab Code:	LAUCKS	s	DG No.:	IDA02	· · ·	
Matrix (soi)	(/water): Water		ab Sampl	le ID:	IDA02	-007
	•		nto Book	· eived:	04/23/	<b>2007</b>
Level (low/m	ned): LOR	<u> </u>	ate kece	er oémi		
% Solids: .					•	•
	Concentrati	on Units :	nd/T	<del></del>	· ·	
CAS No.	Analyte	Concentration	С	Q	М	Run Seq.
7429-90-5	Aluminum	. 3	ט   2.0		M	R017284
7440-36-0	Antimony	0.0	18 Am	U-)-	М	RD17284
7440-38-2	Arsenic	G.:	103 J		M	R017284
7440-39-3	Barium	I	2.0		М	R017284
7440-41-7	Beryllium	0.0	30 U		М	R017284
7440-43-9	Cadmium	0.09	940 U		М	R017284
7440-70-2	Calcium	21	300		M	R017284
7440-47-3	Chromium	0	59 /M	11	М	R017284
7440 <u>4</u> 8 <del>-4</del>	Cobalt	1	89		M	R017284
7440-50-8	Соррег	0	20 U		M	R017284
7439-89-6	Iron	8	2.0		M	R017284
7439-92-1	Lead	0.0			M	R017284
7439-95-4	Magnesium	63	70	7 k	M	R017284
7439-96-5	Manganese		20		М	R017284
7439-97-6	Mercury	0.0	18 U/	1	CV	R017124
7440-02-0	Nickel	1	31		M.	R017284
7440-09-7	Potassium	3.6	40		M	R017284
7782-49-2	Selenium	0.:	10 U		M	R017284
7440-22-4	Silver .	0.0	350 U		M	R017284
7440-23-5	Sadium	26	000		M	R017284
7440-28-0	Thallium	0.04	40 U		M.	R017284
7440-62-2	Venadium	0.	35 J		M	R017284
7440-66-6	Zinc	3	.43 J	Bw	М	R017284
<b></b>		arity Before: <u>Clea</u>			ure:	No
After: <u>C</u>	Cl	arity After: <u>Clea</u>	τ	ATE	facts:	No

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### -1-INORGANIC ANALYSES DATA SHEBT

	•		. г	<del></del>		SAMPLE	ONL:
	•		-			07040	141
Lab Name:	Laucks Laborato	ries	Cont	ract:			
Lab Code: _	LAUCKS		SDG	No.:	IDA02	• • •	
Matrix (soi	1/water): <u>Water</u>		Lab	Sampl	e ID:	IDA02	-008
Level (low/	med): LOW		Date	Rece	ived:	04/23/	/2007
ት Solids:							
	Concentrat	ion Units :	<u> 110</u>	<b>∄/</b> L			
CAS No.	Analyte	Concenti	ration	C	٠Q	М	Run Seq.
7429-90-5	Aluminum		32.0	U		M	R017284
7440-36-0	Antimony		0.465	Son	U	М	R017284
7440-38-2	Arsenic		46.6	1		M	R017284
7440-39-3	Bariun '		109			M	R017284
7440-41-7	Beryllium		0.0430	ט		M	R017284
7440-43-9	Cadmium		0.0940	υ	1	M	R017284
·7440-70-2	Calcium		81700			M	R017284
7440-47-3	Chromium		0.537	1m	U_	М	R017284
7440-48-4	Cobalt		2.63			M	R017284
7440-50-8	Copper		0.520	IJ		M	R017284
7439-89-6	Iron		50600			М	R017284
7439-92-1	Lead		0.0750	U		M	R017284
7439-95-4	Magnesium	•	9900	3	Ė	M	R017284
7439-96-5	Manganese		5630			М	·R017284
7439-97-6	Мегсил		0.018	UT		CV .	R017124
7440-02-0	Niokel		3,55			M	R017284
7440-09-7	Potassium		2680			M	R017284
7782-49-2	Selenium		0.272	An	UT .	М	R017264
7440-22-4	Silver		0.0850	ָ ט		M	R017284
7440-23-5	Sodnim		2710	7	#	M	- R017284
7440-28-0	Thallinm		0.0440	υJ		М	R017284
7440-62-2	Vanadium		1,24	J		M	R017284
7440-66-6	Zinc		5.03	J	E	M.	R017284
ų		· •			Am		
Before: _	Colorless C	larity Before:	Clear		Text	ure:	
After:	Colorless C	larity After:	Clear		Arti	facts:	No
ent			· · · · · · · · · · · · · · · · · · ·			• .	•

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SW-846

# INORGANIC ANALYSES DATA SHEET

Lab Name:	Laucks Laborator	ies	Cont	ract:		·	
Lab Code: _	LAUCKS	·	SDG	No.:	IDA02		
Matrix (soi	l/water): Water	<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>	Lab	Sampl	e ID:	TDA02-	-009
Level (low/	med): LOW		Date	Rece	ived:	04/23/	2007
* Solids: .						٠	
h	Concentrati	ion Units :	110	7/L	<del></del>		
CAS No.	Analyte	Concent	ration	C	Q ·	M	Run Seq
7429-90-5	Aluminum		79.7		· .	M	R017284
7440-36-0	Antimony		0.222	Fr.	たり	M	R017284
7440-38-2	Arsenic		0.655	J		M	R017284
7440-39-3	Barium		9.30			M	R017284
7440-41-7	Beryllium		9.0430	IJ		М	R017284
7440-43-9	Cadmium		0.0940	ซ		M	R017284
7440-70-2	Calcium		22700			M	R017284
7440-47-3	Chromium		0.608	Į, J	()	М	R017284
7440-48-4	Cobalt		0.0826	Ţ		M	R017284
7440-50-8	Соррет		0.746	J		М	R017284
7439-89-6	Iron	·	183			M	R017284
7439-92-1	Lead		0.178	J		М	R017284
7439-95-4	Magnesium		6460	7	Ħ	М	R017284
7439-96-5	Manganese		0.946	j		М	R017284
7439-9 <b>7</b> -6	Mercury		0.018	υŢ		CV	R017124
7440-02-0	Nickel		0.902	ĵ		M ·	R017284
7440-09-7	Potessium		808			М	R017284
7782-49-2	Selenium		0.115	Z ML	UT	M	R017284
7440-22-4	Silver		0.0850	ับ		M	R017284
7440-23-5	Sodium		1950		В	M	R017284
7440-28-0	Thallium		0.0440	υσ		M	R017284
7440-62-2	Vanadium		0.268	ŗ		M	R017284
7440-66-6	Zinc		5,04	· j	Ł	M	R017284
					hw		•
Before:	Colorless Cl	arity Before:	Clear		Text	ure:	<del></del>
After: 🗘	Colorless CI	arity After:	Clear		_ Arti	facts:	No
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SW-846

# SW-846 -1-NALYSES DATA

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			£				· · · · · · · · · · · · · · · · · · ·
Lab Name:	Laucks Laborator:	168	Cont	ract:			
Lab Code: _	LAUCKS		SDG	No.:	IDAD2		
Matrix (soi)	l/water): Soil		Lab	Sampl	e ID:	IDA02	-022
			Date	Rece	ived:	04/23/	2007
Level (low/	ηεα): <u>Ξου</u>		Duce	2000	2,000.		
% Solids: .	8B.1						
	Concentrati	on Units :	mq	/Kg		· · · · · · ·	· · · · · · · · · · · · · · · · · · ·
CAS No.	Analyte	Concentrat	cion	C	Q	М	Run Seq.
7429-90-5	Aluminum		11200			M.	R017339
7440-36-0	Antimony		0.20	<b>/</b> []:	<b>↑</b> *[û	М	R017339
7440-38-2	Arsenic		17.3 -	艾	10	M	R017339
7440-39-3	Barium		63.2	,		M	R017339
7440-41-7	Beryllium	2.2	0.40	J		M ·	R017339
7440-43- <del>9</del>	Cadmium		0.47	I	Ė	М	R017339
7440-70-2	Calcium		862	5	N N	M	R017339
7440-47-3	Chromium		18.8			М	R017339
7440-48-4	Cobalt		8.8			М	R017339
7440-50-8	Сорраг	1	23.7			М	R017339
7439-89-6	liron		24600		*	М	R017339
7439-92-1	Lead		11.0			M	R017339
7439-95-4	Magnesium		3420	ブ	VE	M	RD17339
7439-96-5	Manganese		403	ो	į į	M	R017339
7439-97-6	Mercury		0.0199	ľ		CV	R017362
7440-02-0	Nickel		16.5			М	R017339
7440-09-7	Potassium		1600	1	IN .	M	R017339
7782-49-2	Selenium		0.13	Ţ	m	M	R017339
7440-22-4	Silver		0.14	J	1	M	R017339
7440-23-5	Sodium		52.2			M	R017339
7 <del>44</del> 0-28-0	Thellium		0.11	J	<u> </u>	M	R017339
7440-62-2	Vanadium		11.9			М	R017339
7440-66-6	Zinc		48.7		<u> </u>	M	R017339
Before:	Brown Cl	arity Before: .		•	Tex	cure:	Medium
		arity After:			<b>አ</b> ንተተ	lfacts:	No
After: 1	<u>Colorless</u> Cl	analy miles;	<del></del>		mark File bro		<del></del>
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# SW-846 -1-

#### TWORGANIC ANALYSES DATA SHEET

Lab Name: _	Laucks Laborator	ies	Contr	act:	-	<del></del>	
Lab Code: _	LAUCKS		SDG N	īc.;	IDA02		
Matrix (soi	l/water): <u>Soil</u>		Lab S	ample	ID:	IDA02-	-023
Level (low/	med): LOW		Date	Recei	.ved:	04/23/	2007
% Solids:	71.4					,	
		ion Units :	mc;/	Kq		·	
CAS No.	Analyte	Concentra	tion	С	Q	М	Run Seq.
7429-90-5	Aluminum		19500			М	R017339
7440-36-0	Antimony .		0.074	J	*15]	М	R017339
7440-38-2	Arsenic	-	8.6	7	N	. M	R017339
7440-39-3	Barium		113			M·	R017339
7440-41-7	Beryllium		0.67	1		М	R017339
7440-43-9	Cadmium		0.52	J .	<u> </u>	M	R017339
7440-70-2	Calcium		2720	1	k	M	R017339
7440-47-3	Chromium		18.4			М	R017339
7 <del>44</del> 0-48-4	Cobalt		8.4			М	R017339
7440-50-8	Copper		21.5			М	R017339
7439-89-6	Iron		20000	1	*	M	R017339
7439-92-1	Lead		9.5	<u> </u>		M	R017339
7439-95-4	Magnesium		7760	1	N	M	R017339
7439-96-5	Manganese		260	$\Delta$	車	М	R017339
7439-97-6	Мегситу		0.0124	j		CV	R017362
7440-02-0	Nickel		16.3			М	R017339
7440-09-7	Potassium		2940	5	N	. М	RD17339
7782-49-2	Selenium		0.28	J	Mr	M	R017339
7 <del>44</del> 0-22-4	Silver		0.15	J	<u>_</u>	M	R017339
7440-23-5	Sodium		477			М	R017339
7440-28-0	Thallium		0.20	J		M	R017339
7440-62-2	Vanadium		25.4			М	R017339
7440-66-6	Zinc		47.3			М	R017339
Before:	Brown C	larity Before:	<u></u>		_ Tex	ture:	Medium
: After:	Colorless C	Larity After: .			_ Art	ifacts:	No
nt		•		,			

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#### SW-846 -1-

### INORGANIC ANALYSES DATA SHEET

Lab Code: LAUCKS SDG No.: IDA02  Matrix (soil/water): Soil Lab Sample ID: IDA02-024  Gevel (low/med): LOW Date Received: 04/23/2007  Solids: 70.8  Concentration Units: mq/Kg  CAS No. Analyte Concentration C Q M Run Seq.			•	<del></del>			SAMPLE	NO.
Lab Code: LAUCKS SDG No.: IDA02  Natrix (soil/water): Soil Lab Sample ID: IDA02-024  Level (low/med): LOW Date Received: 04/23/2007  E Solids: 70.8  Concentration Units: mq/Kq  CAS No. Analyte Concentration C Q M Run Seq.  7429-90-5 Aluminum 14900 M R017339  7440-36-0 Antimony 0.10 J N M R017339  7440-38-2 Arsenie 7.3 N M R017339  7440-39-3 Barium 92.8 M R017339  7440-47-7 Beryllium 0.47 J M R017339  7440-47-7 Beryllium 0.47 J M R017339  7440-47-3 Chrominum 11.9 M R017339  7440-47-3 Chrominum 11.9 M R017339  7440-48-4 Cobalt 6.2 M R017339  7440-50-8 Copper 20.8 M R017339  7439-96-5 Magnesium 5830 N M R017339  7439-96-5 Magnesium 5830 N M R017339  7439-97-6 Meroury 0.0114 J CV R017362  7440-00-0 Nickei 13.3 M R017339  7440-00-7 Potassium 1980 N M R017339  7440-00-7 Potassium 1980 N M R017339  7440-28-0 Thallium 0.15 J M R017339	• •		,				07040	106
Lab Code:   LAUCKS   SDG No.:   IDA02	Lab Name:	Laucks Laborator	les	Cont	ract:			
Date Received:   10W   Date Received:   04/23/2007		•	·	SDG	No.:	IDA02		
Concentration Units: mq/Kg  CAS No. Analyte Concentration C Q M Run Seq.  7429-90-5 Aluminum 14900 M R017339  7440-36-0 Antimony 0.10 J M R017339  7440-38-2 Arsenic 7.3 M M R017339  7440-39-3 Barium 92.8 M R017339  7440-41-7 Betyllium 0.47 J M R017339  7440-43-9 Cadmium 9.45 J H M R017339  7440-70-2 Calcium 1480 N M R017339  7440-47-3 Chromium 11.9 M R017339  7440-48-4 Cobalt 6.2 M R017339  7440-48-4 Cobalt 6.2 M R017339  7440-8-5 Copper 20.8 M R017339  7439-8-6 Iron 15100 M R017339  7439-9-1 Lead 9.3 M R017339  7439-9-5 Magnesium 5830 N M R017339  7439-9-6 Meroury 0.0114 J CV R017362  7440-0-7 Potassium 1980 N M R017339  7440-0-7 Potassium 1980 N M R017339  7440-2-4 Silver 0.11 J M R017339  7440-2-5 Sodium 86.3 M R017339  7440-2-5 Sodium 86.3 M R017339	Matrix (soi	l/water): Soil		Lab	Sample	ID:	IDA02-	-024
Concentration Units: mq/Kg  CAS No. Analyte Concentration C Q M Run Seq.  7429-90-5 Aluminum 14900 M R017339  7440-36-0 Antimony 0.10 J M R017339  7440-38-2 Arsenic 7.3 M M R017339  7440-39-3 Barium 92.8 M R017339  7440-41-7 Betyllium 0.47 J M R017339  7440-43-9 Cadmium 9.45 J H M R017339  7440-70-2 Calcium 1480 N M R017339  7440-47-3 Chromium 11.9 M R017339  7440-48-4 Cobalt 6.2 M R017339  7440-48-4 Cobalt 6.2 M R017339  7440-8-5 Copper 20.8 M R017339  7439-8-6 Iron 15100 M R017339  7439-9-1 Lead 9.3 M R017339  7439-9-5 Magnesium 5830 N M R017339  7439-9-6 Meroury 0.0114 J CV R017362  7440-0-7 Potassium 1980 N M R017339  7440-0-7 Potassium 1980 N M R017339  7440-2-4 Silver 0.11 J M R017339  7440-2-5 Sodium 86.3 M R017339  7440-2-5 Sodium 86.3 M R017339	Cors /3 ou/	med). LOW		Date	Recei	ved:	04/23/	2007
Cas No.   Analyte   Concentration   C   Q   M   Run Seq.	÷				•			•
CAS No. Analyte Concentration C Q M Run Seq. 7429-90-5 Aluminum 14900 M R017339 M R017339 7440-36-0 Antimony 0.10 J M R017339	% Solids: .	70.8			•			
CAS NO.         Alterage         Coloration         March 14900         March 17339           7449-90-5         Ahminum         0.10 J         March 2017339           7440-36-0         Antimony         0.10 J         March 2017339           7440-38-2         Arsenic         7.3 J         March 2017339           7440-39-3         Barium         92.8 March 2017339         March 27339           7440-41-7         Betyllium         0.47 J         March 27339           7440-43-9         Cadmium         0.45 J         March 27339           7440-70-2         Calcium         1480 J         March 27339           7440-47-3         Chromium         11.9 March 27339         March 27339           7440-48-4         Cobalt         6.2 March 27339         March 27339           7440-50-8         Copper         20.8 March 27339         March 27339           7439-89-6 Iron         15100 March 27339         March 27339         March 27339           7439-95-1 Lead         9.3 March 27339         March 27339         March 27339           7439-96-5 Manganese         188 J March 27339         March 27339         March 27339           7440-02-0 Mickel         13.3 March 27339         March 27339         March 27339         March 27339		Concentrati	on Units :	<u></u>	/Kg	· ·	<del></del>	
7440-36-0 Antimony 0.10 J N R017339 7440-36-0 Arsenic 7.3 N M R017339 7440-38-2 Arsenic 92.8 M R017339 7440-39-3 Barium 92.8 M R017339 7440-41-7 Beryllium 0.47 J M R017339 7440-41-7 Beryllium 0.45 J F M R017339 7440-42-9 Cadmium 1480 N M R017339 7440-7-2 Calcium 1480 N M R017339 7440-7-3 Chromium 11.9 M R017339 7440-48-4 Cobalt 6.2 M R017339 7440-8-4 Cobalt 6.2 M R017339 7440-8-6 Iron 15100 M R017339 7439-8-6 Iron 9.3 M R017339 7439-9-1 Lead 9.3 M R017339 7439-9-5 Magnesium 5830 N M R017339 7439-9-6 Meroury 0.0114 J CV R017362 7440-02-0 Nickel 13.3 M R017339 7440-02-0 Nickel 13.3 M R017339 7440-02-7 Porassium 1980 N M R017339 7480-9-2 Selenium 0.36 J M R017339 7440-22-4 Silver 0.11 J M R017339 7440-23-5 Sodium 86.3 M R017339 7440-25-0 Thallium 0.15 J M R017339	CAS No.	Analyte	Concentra	tion	C	Q	M	Run Seq.
7440-38-2         Arsenic         7.3         N         M         R017339           7440-39-3         Barium         92.8         M         R017339           7440-41-7         Betyllium         0.47         J         M         R017339           7440-43-9         Cadmium         0.45         J         E         M         R017339           7440-70-2         Calcium         1480         N         M         R017339           7440-47-3         Chromium         11.9         M         R017339           7440-48-4         Cobalt         6.2         M         R017339           7440-50-8         Copper         20.8         M         R017339           7439-89-6         Iron         15100         M         R017339           7439-92-1         Lead         9.3         M         R017339           7439-95-4         Magnesium         5830         N         M         R017339           7439-96-5         Manganese         188         E         M         R017339           7440-02-0         Nickei         13.3         M         R017339           7440-09-7         Potassium         1980         N         M         R	7429-90-5	Aluminum		14900			М	R017339
7440-38-2         Arsenic         7.3         N         M         R017339           7440-39-3         Barium         92.8         M         R017339           7440-41-7         Beryllium         0.47         J         M         R017339           7440-43-9         Cadmium         0.45         J         F         M         R017339           7440-70-2         Calcium         1480         N         M         R017339           7440-47-3         Chromium         11.9         M         R017339           7440-48-4         Cobalt         6.2         M         R017339           7440-50-8         Copper         20.8         M         R017339           7439-89-6         Iron         15100         M         R017339           7439-92-1         Lead         9.3         M         R017339           7439-95-4         Magnesium         5830         N         M         R017339           7439-96-5         Manganese         188         E         M         R017339           7440-02-0         Nickei         13.3         M         R017339           7440-09-7         Potassium         1980         N         M         R		Antimony		0.10		· *N	M	R017339
Taylor		<del></del>		7,3	T	N	М	R017339
7440-41-7         Beryllium         0.47         J         M         R017339           7440-43-9         Cadmium         0.45         J         E         M         R017339           7440-70-2         Calcium         1480         N         M         R017339           7440-47-3         Chromium         11.9         M         R017339           7440-48-4         Cobalt         6.2         M         R017339           7440-50-8         Copper         20.8         M         R017339           7439-89-6         Iron         15100         M         R017339           7439-92-1         Lead         9.3         M         R017339           7439-95-4         Magnesium         5830         N         M         R017339           7439-96-5         Manganese         188         E         M         R017339           7439-97-6         Meroury         0.0114         J         CV         R017362           7440-02-0         Nickel         13.3         M         R017339           7440-09-7         Potassium         0.36         J         M         R017339           7440-22-4         Silver         0.11         J         <				92.8			M	R017339
7440-43-9         Cadmium         0.45         J         E         M         R017339           7440-70-2         Calcium         1480         N         M         R017339           7440-47-3         Chromium         11.9         M         R017339           7440-48-4         Cobalt         6.2         M         R017339           7440-50-8         Copper         20.8         M         R017339           7439-89-6         Iron         15100         M         R017339           7439-92-1         Lead         9.3         M         R017339           7439-95-4         Magnesium         5830         N         M         R017339           7439-96-5         Manganese         188         Image: Recommender of the commender of the commende		Beryllium		0.47	J		M	R017339
7440-70-2         Calcium         1480         N         M         R037339           7440-47-3         Chromium         11.9         M         R017339           7440-48-4         Cobalt         6.2         M         R017339           7440-50-8         Copper         20.8         M         R017339           7439-89-6         Iron         15100         M         R017339           7439-92-1         Lead         9.3         M         R017339           7439-95-4         Magnesium         5830         N         M         R017339           7439-96-5         Marguese         188         E         M         R017339           7439-97-6         Mercury         0.0114         J         CV         R017339           7440-02-0         Nickel         13.3         M         R017339           7440-09-7         Potassium         1980         N         M         R017339           7440-22-4         Silver         0.11         J         M         R017339           7440-23-5         Sodium         86.3         M         R017339           7440-28-0         Thallium         0.15         J         M         R017339 </td <td></td> <td></td> <td></td> <td>0.45</td> <td>J</td> <td>ㅂ</td> <td>M.</td> <td>R017339</td>				0.45	J	ㅂ	M.	R017339
7440-48-4         Cobalt         6.2         M         R017339           7440-48-4         Cobalt         6.2         M         R017339           7440-50-8         Copper         20.8         M         R017339           7439-89-6         Iron         15100         M         R017339           7439-92-1         Lead         9.3         M         R017339           7439-95-4         Magnesium         5830         N         M         R017339           7439-96-5         Manganese         188         E         M         R017339           7439-97-6         Mercury         0.0114         J         CV         R017362           7440-02-0         Nickel         13.3         M         R017339           7440-09-7         Potassium         1980         N         M         R017339           7440-22-4         Silver         D.11         J         M         R017339           7440-23-5         Sodium         86.3         M         R017339           7440-28-0         Thellium         0.15         J         M         R017339           7440-62-2         Vanadium         20.5         M         R017339		Calcium		1480	I	Ν	М	R017339
7440-48-4         Cobalt         6.2         M         R017339           7440-50-8         Copper         20.8         M         R017339           7439-89-6         Iron         15100         M         R017339           7439-92-1         Lead         9.3         M         R017339           7439-95-4         Magnesium         5830         N         M         R017339           7439-96-5         Manganese         188         E         M         R017339           7439-97-6         Mercury         0.0114         J         CV         R017339           7440-02-0         Nickei         13.3         M         R017339           7440-09-7         Potassium         1980         N         M         R017339           7440-22-4         Silver         D.11         J         M         R017339           7440-23-5         Sodium         86.3         M         R017339           7440-28-0         Thellium         0.15         J         M         R017339           7440-62-2         Vanadium         20.5         M         R017339		Chromium		11.9	• ,		М	R017339
7440-50-8         Copper         20.8         M         R017339           7439-89-6         Iron         15100         M         R017339           7439-92-1         Lead         9.3         M         R017339           7439-95-4         Magnesium         5830         N         M         R017339           7439-96-5         Manganese         188         E         M         R017339           7439-97-6         Mercury         0.0114         J         CV         R017362           7440-02-0         Nickel         13.3         M         R017339           7440-09-7         Potassium         1980         N         M         R017339           7782-49-2         Selenium         0.36         J         N         M         R017339           7440-22-4         Silver         D.11         J         M         R017339           7440-28-0         Thallium         0.15         J         M         R017339           7440-62-2         Vanadium         20.5         M         R017339		Cobalt		6.2			M	R017339
7439-89-6         Iron         15100         M         R017339           7439-92-1         Lead         9.3         M         R017339           7439-95-4         Magnesium         5830         N         M         R017339           7439-96-5         Manganese         188         F         M         R017339           7449-97-6         Mercury         0.0114         J         CV         R017362           7440-02-0         Nickel         13.3         M         R017339           7440-09-7         Potassium         1980         N         M         R017339           7782-49-2         Selenium         0.36         J         M         R017339           7440-22-4         Silver         D.11         J         M         R017339           7440-23-5         Sodium         86.3         M         R017339           7440-28-0         Thellium         0.15         J         M         R017339           7440-62-2         Vanadium         20.5         M         R017339				20.8			M	R017339
7439-92-1         Lead         9.3         M         R017339           7439-95-4         Magnesium         5830         N         M         R017339           7439-96-5         Manganese         188         F         M         R017339           7439-97-6         Mercury         0.0114         J         CV         R017339           7440-02-0         Nickei         13.3         M         R017339           7440-09-7         Potassium         1980         N         M         R017339           7782-49-2         Selenium         0.36         J         M         R017339           7440-22-4         Silver         D.11         J         M         R017339           7440-23-5         Sodium         86.3         M         R017339           7440-28-0         Thellium         0.15         J         M         R017339           7440-62-2         Vanadium         20.5         M         R017339				15100		*	М	R017339
7439-95-4         Magnesium         5830         N         M         R017339           7439-96-5         Manganese         188         E         M         R017339           7439-97-6         Mercury         0.0114         J         CV         R017362           7440-02-0         Nickel         13.3         M         R017339           7440-09-7         Potassium         1980         N         M         R017339           7782-49-2         Selenium         0.36         J         N         M         R017339           7440-22-4         Silver         D.11         J         M         R017339           7440-23-5         Sodium         86.3         M         R017339           7440-26-0         Thellium         0.15         J         M         R017339           7440-62-2         Vanadium         20.5         M         R017339		Lead		9.3			M	R017339
7439-96-5         Manganese         188         J         E         M         R017339           7439-97-6         Mercury         0.0114         J         CV         R0173362           7440-02-0         Nickei         13.3         M         R017339           7440-09-7         Potassium         1980         N         M         R017339           7782-49-2         Selenium         0.36         J         M         R017339           7440-22-4         Silver         D.11         J         M         R017339           7440-23-5         Sodium         86.3         M         R017339           7440-28-0         Thellium         0.15         J         M         R017339           7440-62-2         Vanadium         20.5         M         R017339		Magnesium		5830	ゴ	N	М	R017339
7439-97-6         Mercury         0.0114         J         CV         R0173362           7440-02-0         Nickei         13.3         M         R017339           7440-09-7         Potassium         1980         N         M         R017339           7782-49-2         Selenium         0.36         J         M         R017339           7440-22-4         Silver         D.11         J         M         R017339           7440-23-5         Sodium         86.3         M         R017339           7440-28-0         Thellium         0.15         J         M         R017339           7440-62-2         Vanadium         20.5         M         R017339				188	J	Ė	M	R017339
7440-02-0         Nickel         13.3         M         R017339           7440-09-7         Potassium         1980         N         M         R017339           7782-49-2         Selenium         0.36         J         N         M         R017339           7440-22-4         Silver         D.11         J         M         R017339           7440-23-5         Sodium         86.3         M         R017339           7440-28-0         Thellium         0.15         J         M         R017339           7440-62-2         Vanadium         20.5         M         R017339				0.0114	j		CV	R017362
7440-09-7         Potassium         1980         N         M         R017339           7782-49-2         Selenium         0.36         J         M         R017339           7440-22-4         Silver         D.11         J         M         R017339           7440-23-5         Sodium         86.3         M         R017339           7440-28-0         Thellium         0.15         J         M         R017339           7440-62-2         Vanadium         20.5         M         R017339				13.3		1	M	R017339
7782-49-2         Selenium         0.36         J         NO         M         R017339           7440-22-4         Silver         0.11         J         M         R017339           7440-23-5         Sodium         86.3         M         R017339           7440-28-0         Thellium         0.15         J         M         R017339           7440-62-2         Vanadium         20.5         M         R017339		Potassium		1980			М	R017339
7440-22-4         Silver         D.11         J         M         R017339           7440-23-5         Sodium         86.3         M         R017339           7440-28-0         Thellium         0.15         J         M         R017339           7440-62-2         Vanadium         20.5         M         R017339		Selenium		0.36	]	lun	M	R017339
7440-28-0 Thellium 0.15 J M R017339 7440-62-2 Vanadium 20.5 M R017339		Silver		D.11	J	·····	M	R017339
7440-62-2 Vanadium 20.5 M R017339	7440-23-5	Sodium		86.3			M	R017339
7440-62-2 Vanadium 20.5 M R017339	<del> </del>	Thallium		0.15	1		М	R017339
10.0		Vanadium		20,5			M	R017339
		Zinc		42.2		<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>	М	R017339
	7440-28-0 7440-62-2	Thallium Vanadium		0.15 20,5	J		M M	R017339 R017339
	After: .	<u>Colorless</u> Cl	arity After:	,		_ Art	ifacts:	No
After: Colorless Clarity After: Artifacts: No	ent							

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Form I - I

MN 58-07

SW-846

#### W-846

-1-

INORGANIC	ANALYSES	DATA	SHEET

Lab Name:	Laucks Laboratorie	<u>5</u>	Cont	ract:	<del> </del>		
Lab Code:	LAUCKS		SDG :	No.:	IDA02		
Matrix (soi	l/water): Soil		Lab :	Sample	ID:	IDA02-	-025
			Tombo.	Recei	mad .	04/23/	'2007
Level (low/	med): LUW		Pare	Kecei	v <sub>Eu</sub> .		
% Solids: .	B7.8						
	· Concentration	ı Units :	mer	/Kg		<del>-</del>	<del></del>
CAS No.	Anelyte	Concentra	tion	С	Q	IM	Run Seq.
7429-90-5	Aluminum		11200			М	R017339
7440-36-0	Antimony		1.3	7	*N	М	R017339
7440-38-2	Arsenic		12.0	5	<u> </u>	M	R017339
7440-39-3	Barium		193			M	R017339
7440-41-7	Beryllium		0.62	1		M	R017339
7440-43-9	Cadmium		0.81			M	R017339
7440-70-2	Calcium		6390	<u> </u>	- Y	M	R017339
7440-47-3	Chromium		15.1			M	R017339
7440-48-4	Cobalt		6.5			M	R017339
7440-50-8	Соррат		101			<u> M</u>	R017339
7439-89-6	Iron		19700		‡	M	R017393
<b>7439</b> -92-1	Lead		145	ومسيند		M	R017339
7439-95-4	Magnesium		8060	2	<del></del>	M	R017339
7439-96-5	Manganese .		354	7)	E	M	R017339
7439-97-6	Mercury	<u> </u>	0.0553	Ţ		CV	R017362
7440-02-0	Nickel	<del> </del>	24.9			M	R017339
7440-09-7	Potassium		3250	5	- Me	M	R017339
7782-49-2	Selenium	ļ <u></u>	0.22	]	100	M	R017339
7440-22-4	Silver	<u> </u>	0.16	1	.1	M	R017339
7440-23-5	Sodium		292			M	R017339
7440-28-0	Thallium		0.16	J		M.	R017339
7440-62-2	Vanadium	<u> </u>	30.2			M	R017339
7 <u>44</u> 0-66-6 ·	Zinc	<u> </u>	101		<del>,</del>	M	R017339
: Before:	Brown Cla	rity Before:		***************************************	Tex	ture:	Medium
•		rity After: .	<u>.</u>		Art	ifacts:	No
ent			,				

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Form I - II

MW S-BOT

SW-846

	-2-		
INORGANIC	ANALYSES	DATA	SHEET

ab Code: _	LAUCKS	·	No.:			
Matrix (soi	l/water): Soil	Lab	Sampl	e ID:	IDA02	-026
evel (low/	(med): LOW	Date	Rece	ived:	04/23	/2007
Solids:		on Units: mg	/Kg	<del></del>	_	
CAS No.	Analyte	Concentration	С	Q.	M	Run Seq.
7429-90-5	Ahminum	13500			M	R017339
7440-36-0	Antimony	0,21	J	Ñ	M	R017339
7440-38-2	Arsenic	5.7	$\mathcal{I}$	N	. м	R017339
7440-39-3	Bariun	76.3		1	M	R017339
7440-4)-7	Beryllium	0.57	J		M	R017339
7440-43-9	Cadmium	0.39		<u> </u>	M	R017339
7440-70-2	Calcium	2310	<u>.)</u>	<u>v</u>	M	R017339
7440-47-3	Chroniun	13.2			M	R017339
7440-48-4	Cobalt	6.9			М	R017339
7440-50-8	Copper	25.1			М	R017339
7439-89-6	Iron	18000		*	М	R017339
7439-92-1	Lead	6.1			M	R017339
7439-95-4	Magnesium	6190	7	Ŋ	M	R017339
7439-96-5	Manganese	271		1	M	R017339
7439-97-6	Mercury	0.0119	J		CV_	R017362
7440-02-0	Nickel	13.1	<del></del>		M	R017339
440-09-7	Potassium	2460		1	М	R017339
782-49-2	Selenium	0.38	ı	Ŋ.	M.	R017339
1440-22-4	Silver	0.10	J		M	R017339
7440-23-5	Sodium	113	Ì		M	R017339
7440-28-0	Thallium	0.16	J		М	R017339
7440-62-2	Vanadium.	25.6			M	R017339
7440-66-6	Zinc	34.9			M	R017339
Before:	Brown Cl:	arity Before:		Tex	ture:	Medium

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Form I - I

MY SOOT

CW. OAC

# -1-

# INORGANIC ANALYSES DATA SHEET

	4			<u>·</u>	SAMPLE	, NO.
	·				07040	113
Lab Name:	Laucks Laboratorio	2B	Contract	:		
Lab Code:	LAUCKS		SDG No.:	IDA02		
Matrix (soi	l/water): <u>Soil</u>		Lab Samp	le ID:	IDA02	-027
Level (low/	med): LOW		Date Rec	eived:	04/23	/2007
% Solids: _		on Units :	mq/Kq			· .
CAS No.	Analyte	Concentrati	on C	Q	М	Run Seg.
7429-90-5	Aluminum		15800		M.	R017339
7440-36-0	Antimony		D.12 J	*41	М	R017339
7440-38-2	Arsenic		7.5	N	M.	R017339
7440-39-3	Barium		96.0		M	R017339
7440-41-7	Beryllium		0.54 J		М	R017339
7440-43-9	Cadmium		0.43 J	Ē	М	R017339
7440-70-2	Calcium		1910 5	Ŋ	М	R017339
7440-47-3	Chromium		12.8		М	R017339
7440-48-4	Cobalt		8.5		M	R017339
7440-50-8	Copper		20.7		M	R017339
7439-89-6	Iron		16900	#	М	R017339
7439-92-1	Lead		8.3	<u> </u>	- M	R017339
7439-95-4	Magnesium		6570	<b>W</b>	М	R017339
7439-96-5	Manganese		319	1	М	R017339
7439-97-6	Mercury		0.01.05 J		· cv	R017362
7440-02-0	Nickel		13.4		М	R017339
7440-09-7	Potassium		1720	, h	M	R017339
7782-49-2	Selenium		0.39 J	(Ar.)	M	R017339
7440-22-4	. Silver		· 0.11 J		M	R017339
7440-23-5	Sodium		106		М	R017339
7440-28-0	Thalljum	,	0.16 J		М	R017339
7440-62-2	Vanadium		23.0		М	R017339
7440-66-6	Zinc		42.5	1	М	R017339
-		rity Before:		,	ture: ifacts:	Međium No

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Form I - IN

MYSBOT

SW-846

#### -1-INORGANIC ANALYSES DATA SHEET

		L				<del></del>
Lab Name:	Laucks Laboratories	Cont	ract:		····	<del> </del>
Lab Code:	AUCKS	SDG	No.:	IDA02		· · · · · · · · · · · · · · · · · · ·
Matrik (soil	/water): Soil	Lab	Sample	e ID:	IDA02-	029
Lével (low/m	ed): LOW	Date	Rece:	lved:	04/23/	2007
Solids: _E	5.3	•				•
	Concentration T	nits: mg	/Kg	·	a)	
CAS No.	Analyte	Concentration	С	Q	М	Run Seq.
7429-90-5	Aluminum	. 14100			М.	R017339
7440-36-0	Antimony	0.17	J	٩Ñ	M.	R017339
7440-38-2	Arsenic	15.7	7	þ	М	R017339
7440-39-3	Barium	125			М	R017339
7440-41-7	Beryllium	0.46			М	R017339
7440-43-9	Cadmium	0.53	^	E	М	R017339
7440-70-2	Calcium	1620		1	M	R017339
7440-47-3	Chromiun	12.1			М	R017339
7440-48-4	Cobalt	7.1	1	,	M	R017339
7440-50-8	Copper	20.5			M	R017339
7439-89-6	Iron .	18900		it .	М	R017339
7439-92-1	Lezd	17.3			M	R017339
7439-95-4	Magnesium	7460	5	<u> </u>	M	R017339
7439-96-5	Manganese	200	1	<u> </u>	M	R017339
7439-97-6	Mercury	0.00640	UJ		CV	R017362
7440-02-0	Nickel	16,1		_ [	М	R017339
7440-09-7	Potassium	3500	1	<u> </u>	М.	R017339
7782-49-2	Selenium	0,23	J	Im	. M	R017339
7440-22 <del>-4</del>	Silver	0.12			M	R017339
7440-23-5	Sodium	70.4			М	R017339
7440-28-0	Thallium	0.17	J		M	R017339
7440-62-2	Venadium	22.1		<del> </del>	M	R017339
7440-66-6	Zinc	26.0			M	R017339
Before: B	rown Clarit	y Before:	,	_ Text	ure;	Medium
After: Y	ellow Clarit	y After:		_ Arti	ifacts:	No ·
nt						, · · · , · · · · · · · · · · · · · · ·

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MW5 13-7

#### -1-RGANIC ANALYSES DATA SHEET

ab Name:	Laucks Laboratories	Cont	ract:			
ab Code:		SDG :	No.:	IDA02	·	·
latrix (soi)	l/water): Soil	Lab	Sample	≘ ID:	IDA02-	-030
evel (low/i		Date	Rece:	ived:	04/23/	2007
: Solids: .						
	Concentration Un	its: <u>mg</u>	/Ka			
CAS No.	Analyte	Concentration	С	Q	М	Run Seq.
7429-90-5	Aluminum	12100		,	М	·R017339
7440-36-0	Antimony	1.1	IJ	*10	M	R017339
7440-38-2	Агееліс	16.9	7	1/	М	R017339
7440-39-3	Barium	174			М	RD17339
7440-41-7	Beryllium	0.46	J		M	R017339
7440-43-9	Cadmium.	0.78		E	M	R017339
7440-70-2	Calcium	4370	7	N	M	R017339
7440-47-3	Chromium	12.3			M	RD27339
7440-48-4	Cobalt	19.2			, M	R017339
7440-50-8	Copper	71.6			. M.	R017339
7439-89-6	Iron	19300			M	R017339
7439-92-1	Lead	159			M	R017339
7439-95-4	Magnesium	6590		<u>k</u>	M	R017339
7439-96-5	Manganese	288	1	<u> </u>	M	R017339
7439-97-6	Mercury	0.117			CV	R017362
7440-92-0	Nickel	32.3			М	R017339
7440-09-7	Potassium	2740		N.	M	R017339
7782-49-2	Selenium	0,21	J	Mas	М	R017339
7 <del>44</del> 0-22 <del>-4</del>	Silver	0.17	J	-	M	R017339
7440-23-5	Sodium	139		1	M	R017339
7440-28-0	Thallium	0.14	3		M	R017339
7440-62-2	Vanadium	21.9			M	R017339
7440-66-6	Zinc	72.3		<u> </u>	M	R017339
Before:	Brown Clarity	Before:		Tex	ture:	Medium
After: _	Brown Clarity	After:	<u></u>	Art	ifacts:	No

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### INORGANIC ANALYSES DATA SHEET

Lab Code: _	LAUCKS	SDG	No.;	IDA02		
Matrix (soi	l/water): Scil	Lab	Sample	e ID:	IDA02	-031
			Rece	dana.	04/23,	/2007
Level (low/	med): LOW	Date	Rece:	ivea:	, 5.57, 5.51	
% Solids: .	76.6	•				•
	Concentration	on Units:mo	/Kg			
CAS No.	Analyte	Concentration	С	Q	M	Run Seq.
7429-90-5	Aluminum	13100			M	R017339
7440-36-0	Antimony	0.099	J	Ę	М	R017339
7440-38-2	Arsenic	4.2		Ŋ	М	R017339
7440-39-3	Barium	65.6			М	R017339
7440-41-7	Beryliium	0,46	J		М	R017339
7440-43-9	Cadmium	0.36	J	ŧ	М	R017339
7440-70-2	Calcium	1930	+	Ŋ	М	R017339
7440-47-3	Chromium	10.9			M	R017339
7440-4B-4	Cobalt	5.5			M	R017339
7440-50-8	Copper	18.7			M	RD17339
7439-89-6	lron	15000		+	М	R017339
7439-92-1	Lead	7.7			M	R017339
7439-95-4	Magnesium	5750	立	, jt	M	R017339
7439- <del>9</del> 6-5	Manganese	98.3		<u>E</u>	М	R017339
7439-97-6	Метситу	0.00713	ρή		CV	R017362
7440-02-0	Nickel	12.9			M	R017339
7440-09-7	Potassium	2060	I	, j	M	R017339
7782-49-2	Selenium	0.30	]	W	М.	R01.7339
7440-22 <del>-4</del>	Silver	0.078	J		М	R017339
7440-23-5	Sodium	89.5	ļ <u>.</u>		M	. R017339
7440-28-0	Thallium	0.13			М	R017339
7440-62-2	Vanadium	23.5	-		M	R017339
7440-66-6	Zinc	34.4			М	R017339
Before:		rity Before:	·	<del></del>	ture: ifacts:	<u>Medium</u>

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-1-SHE 4741 SHEVERS DAWN SHE

	Laucks Laboratori			ract;		•	
Lab Code: _	LAUCKS		SDG	No :	IDA02		
Matrix (soi	l/water): Soil	-	Lab	Sample	e ID:	IDA02	-032
Level (low/	med): LOW		Date	Rece:	ived:	04/23,	/2007
% Solids: \				-			
o DOLLUD.	Concentrati	on Units :	nq	/Kq			
CAS No.	Analyte	Concentrat	-	С	Q	М	Run Seq.
7429-90-5	Aluminum		10200			M	R017339
7440-36-0	Antimony		0.49	-	*Ñ	M	R017339
7440-38-2	Arsenic		16.1	4	į,	М	R017339
7440-39-3	Barium		175			М	R017339
7440-41-7	Beryllium		0.42	J		М	R017339
7440-43-9	Cadmium		0.86		Ė	М	R017339
7440-70-2	Calcium		3110	7	· ¼	М	R017339
7440-47-3	Chromium		12.0			M	R017339
7440-48-4	Cobalt		6.3			M	R017339
7440-50-8	Copper '		44.7	_		М	R017339
7439-89-6	Iron		16300		#	M	R017339
7439-92-1	Lead		69.1			M	R017339
7439-95-4	Magnesium		4180 (	$T_{i}$		M	R017339
7439-96-5	Manganese		315	1	華	M	R017339
7439-97 <b>-</b> 6	Мегсигу		0,0312	ĭ		CV	R017362
7440-02-0	Nickel	·	17.8			M	R017339
<b>7</b> 440-09-7	Potassium		1 <del>9</del> 20	3	ħ	M	R017339
7782-49-2	Selenium		0.31	J .	WN	M	R017339
7440-22-4	Silver		0.14	J		M	R017339
7440-23-5	Sodium		203			M	R017339
7440-28-0	Thallium		0.12	J		М	R017339
7440-62-2	Vanadium		29.9			M	R017339
7440-66-6	Zinc		111			M.	R017339
Before: _		arity Before: _			<del></del> -	ure:	Wedium
After: ]	Brown Cla	rity After: _	•	<del></del>	_ Arti	facts:	No.

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#### -1-משמע משמע מאור מאור משמע משוו

		•				07040	175	
Lab Name:	Laucks Laborator	ies	Cont	ract:				
Lab Code: _	LAUCKS		SDG	No.:	IDA02		· · · · · · · · · · · · · · · · · · ·	
Matrix (soil/water): Soil			Lab	Sampl	a ID:	ID: <u>IDA02-033</u>		
Level (low/	med): LOW		Date	Rece	ived:	04/23/	2007	
% Solids:	78.3	on Units :	mo	/Kg				
CAS No.	Analyte	Concentra	tion	C	Q	м	Run Seq.	
7429-90-5	Aluminum	•	13000			М	R017339	
7440-36-0	Antimony .		0.063	J	<b>*</b> N	M	R017339	
7440-38-2	Arsenic		5.4	->	k	M.	RD17339	
7440-39-3	Barium		65.8		*	M	R017339	
7440-41-7	Beryllium		0.49		į.	M	R017339	
7440-43-9	Cadmium	·	0.36	J	*	М	R017339	
7440-70-2	Calcium		1530	1	1	M	R017339	
7440-47-3	Chromium		11.2			М	R017339	
7440-48-4	Cobalt		7.1			М	R017339	
7440-50-8	Copper		18.1		- 1	М	R017339	
7439-89-6	Iron		16800		*	M	R017339	
7439-92-1	Lead		4.3			М	R017339	
7439-95-4	Magnesium		5320	3	1	М	R017339	
7439-96-5	Мандалеке	·	240	$\mathcal{O}$	<u> </u>	M	R017339	
7439-97-6	Mercury		0.00697	υj		cv	R017362	
7440-02-0	Nickel		12.9			M	R017339	
7440-09-7	Potassium		1960	-1	30	M	R017339	
7782-49-2	Selenium		0.21	J	ļm	М	R017339	
7440-22-4	Silver		0.081	J		M	R017339	
7440-23-5	Sodium		101			M	R017339	
7440-28-0	Thallium		0.16	J		М	R017339	
7440-62-2	Vanadium		22.3			М	R017339	
7440-66-6	Zinc		29.5			М	R017339	
_		arity Before: _arity After: _			<b>-</b> .	oure: Lfacts:	Medium No	
ent		:						

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#### INORGANIC ANALYSES DATA SHEET

	Laucks Laboratorie		ract:	. '		
lab Code: _	LAUCKS	SDG	No.:	IDAU2	·	· · · · · · · · · · · · · · · · · · ·
Matrix (soî	l/water): <u>Soil</u>	Lab	Sampl	e ID:	IDA02	-034
evel (low/	med): LOW	Date	Rece	ived:	04/23/	/2007
Solids: .	87.4					
	Concentration	Units: mg		<u>-</u>		
CAS No.	Analyte	Concentration	ď	Q	M	Run Seq.
7429-90-5	Aluminum	11100		: F-	M	R017339
7440-36-0	Antimony	0.059	]	11/2	М	R017339
7440-38-2	Arsenio	17.0	J	14)	М	R017339
744D-39-3	Barium	62.4			M,	R017339
7440-41-7	Beryllium	0.40	J		M	R017339
7440-43-9	Cadmium	0.29	1	ŧ.	M	R017339
7440-70-2	Calcium	1740	1	和	M	R017339
7440-47-3	Chromium	10.8			M	R017339
7440-48-4	Cobalt	7.9			M	R017339
7440-50-8	Copper	21.3			M	R017339
7439-89-6	iron	18400		*	M	R017339
7439-92-1	Lead	2.3			M	R017339
7439-95-4	Magnesium	6670	1	_ 1/2	M	R017339
7439-96-5	Manganese	201	$\triangle$	E	M	R017339
1439-97-6	Mercury	0.00625	ঢ্য		CV	R017362
7440-02-0	Nickel	15.0			M .	RD17339
7440-09-7	Potessium	3240		Ŋ	M	R017339
7782-49-2	Selenium	0.19	J	Agr	M	R017339
7440-22-4	Silver	0.070	J		М	R017339
7440-23-5	Sodium	89.7	<u>`</u>		M	RD17339
7440-28-0	Thallium	0,26	J'		M	R017339
7440-62-2	Vanadium	1,9.5			M	R017339
7440-66-6	Zinc	18.4			] M. ,	R017339
			,		<del></del>	
Before:	Brown Clar	ity Before:		_ Text	ure:	Coarse
After: _C	<u> Clariess</u> Clar	ity After:		Arti	facts:	No

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		SW-846 -1-					
	I	NORGANIC ANALYSES DAIA	SHEET	Þ	SAMPLE	NO.	
		•		_	07040		
			L				
ab Name:	Laucks Laborat	ories Cor	itract:	•		<u> </u>	
ab Code: _	LAUCKS	six	No.:	IDA02	<u> </u>	······································	
	l/water): <u>Soil</u>	Lal	Sampl	e ID:	IDA02	-035	
		•		ived:			_
	*	,					
Solids: .						•	
	Concentra	ation Units:	ng/Kg	<del></del>			í
CAS No.	Analyte	Concentration	С	Q	M	Run Seq.	
7429-90-5	Aluminum	1270	0		М	R017339	
7440-36-0	Antimony	0.07		**N	M	R017339	
7440-38-2	Arsenic	6.	1 -	1	М	R017339	
7440-39-3	Barium	69.			М	R017339	
7440-41-7	Beryllium	0.3	9 3		M	R017339	
7440-43-9	Cadmium	0.4	1 J	<u> </u>	M	R017339	
7440-70-2	Calcium	129	0 5	N	M	R017339	
7440-47-3	Chromium	10.	7	¥	М	R017339	
7440-48-4	Cobalt	6.	9		М	R017339	
7440-50-8	Copper	20.	2		M	R017339	
7439-89-6	Iron	1710	0	#	М	R017339	
7439-92-1	Lead	6.	3		M	R017339	
7439-95-4	Magnesium	529	0 5	Ŋ	M	R017339	
7439-96-5	Manganese	22	$1 \square $	Ħ.	M	R017339	
7439-97-6	Mercury	0.0069	1 0		CV	R017362	
7440-02-0	Nickel	12.	1		М	R017339	
7440-09-7	Potassium	194	0 5	中	M	R017339	ļ
7782-49-2	Selenium	0.2		lim	М	R017339	
7440-22-4	Silver	D.08	6 J		М	R017339	1
7440-23-5	Sodium	89.	5		M	R017339	ļ
7440-28-0	Thellium	0.1	5 J		M	R017339	
7440-62-2	Vanadium	21	.0		M	R017339	
	Zinc	33.	Δ		М	R017339	

Color Befor	e: Brown	Clarity Before:	,	rexture:	P THE
Color After	: Colorless	Clarity After:		Artifacts:	No
Comment _				<u> </u>	<u> </u>
-					

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SW-846

#### SW-846 -1-

#### INORGANIC ANALYSES DATA SHEET

	•			·	SAMPLE	
					07040	129
w1 Av.	Laucks Laborator	AC 6				
Lab Name:	nauchs sauctacot.	Com	ract:	•		<u> </u>
Lab Code: _	LAUCKS	SDG	No.:	IDA02		
Matrix (soi	l/water): <u>Soil</u>	Lab	Sampl	e ID:	IDA02-	-036
Level (low/	med). LOW	Date	Rece	ived:	04/23/	2007
% Solids: .	89.6					
	Concentrati	on Units: mc	i/Kq	<u> </u>	1	<del></del> i
CAS No.	Analyte	Concentration	С	Q	M	Run Seq.
7429-90-5	Aluminum	7760		12	M	R017339
7440-36-0	Antimony	0.066	Ţ	*17	M	R017339
7440-38-2	Arsenic	5.1	7	1	M	R017339
7440-39-3	Barium	44.3	. 3		М	R017339
7440-41-7	Beryllium	0.24	3		М	R017339
7440-43-9	Cadmium	0.23	J	1	М	R017339
7440-70-2	Calcium	1580	1	T	М	R017339
7440-47-3	Chromium	7.7			М	R017339
7440-48-4	Cobalt	5.6			M	R017339
7440-50-8	Copper	43.0			M	R017339
7439-89-6	Iron	15100		i .	M	R017339
7439-92-1	Lead	4.7			M	R017339
7439-95-4	Magnesium	4170	0	N	М	R017339
7439-96-5	Manganese	120	1	1	M	R017339
7439-97-6	Метситу	0,00609	ŭJ		σv	R017362
7440-02-0	Niolæl	8.7			M	R017339
7440-09-7	Potassium	1960		·N	M	R017339
7782-49-2	Selenium	0.16	Ĵ	M^	M	R017339
7440-22-4	Silver	0.055	J		М	R017339
7440-23-5	Sodium	108			М	R017339
7440-28-0	Thallium	0.094	J		М	R017339
7440-62-2	Vanadium	28.3			М	R017339
7440-66-6	Zinc	20.7			М	R017339
		•				
Before: _	Brown Cla	erity Before:		Text	ure:	Coarse
After: 1	Cla	arity After:		Arti	facts:	No
ent		,				
		•	ε			

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SW-846

	• .					07040	131 .
Lab Name:	Laucks Labors	tories	Cont	ract:			
Lab Code: _			SDG	100.:	IDAG2		
	1/water): <u>Soi</u>	1			e ID:	IDA02	-037
			•	-	ived:	04/23/	/2007
Level (low/	med): <u>Hor</u>		, Date	. Kece	14801		
% Solids: .	100		•				
	Concent	ration Units :	ma	/Kq			<del>,</del>
CAS No.	Analyte	Concentr	ation	С	Q	М	Run Seq.
7429-90-5	Aluminum		71.2			М	R017339
7440-36-0	Antimony		0.28	J	*N	M	R017339
7440-38-2	Arsenic	•	3.1		N .	M	R017339
7440-39-3	Barium		2.3			M	R017339
7440-41-7	Beryllium		0.013	Ü		M	R017339
7440-43-9	Cadmium		0.061	J	<u> </u>	M	R017339
7440-70-2	Calcium		55.9	JXm	w h	M	R017339
7440-47-3	Chromium		3.4	- <b>3</b> (		M	R017339
7440-48-4	Cobalt		0.38			M	R017339
7440-50-8	Соррег		10.9			М	R017339
7439-89-6	lron		35.9		4	М	R017339
7439-92-1	Lead		1.6			M	R017339
7439-95-4	Magnesium		1.3	U	N	M.	R017339
7439-96-5	Manganese		0.74	J	Е	M	R017339
7439-97-6	Mercury .		0.00546	U		CV	R017362
7440-02-0	Nickel		21.8			M	R017339
7440-09-7	Potassium		7,6	1	Ŋ	M	R017339
7782-49-2	Selenium		0.23	J	Yer	M	R017339
7440-22-4	Silver		880.0	J		M	R017339
7440-23-5	Sodium		5.5	j		M	R017339
7440-28-0	Thallium		0.0091	ט		М	R017339
7440-62-2	Vanadium		21.9			М	R017339
7440-66-6	Zinc		1.5	บ		M	R017339
Before:	Brown	Clarity Before:			Text	ure:	Fine
After: (	<u> Drange</u>	Clarity After:			_ Arti	facts:	No
					•		

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